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MAJOR GENERAL SIR WILLIAM HERRINGHAM, K.C.M.G.

A PHYSICIAN IN FRANCE

BY

MAJOR-GENERAL

SIR WILMOT HERRINGHAM, K.C.M.G., C.B.

LATE CONSULTING PHYSICIAN TO THE FORCES OVERSEAS

ILLUSTRATED

'Que peut on espérer d'un medecin traitant la guerre?'—MONTAGNE.

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“ Gens eadem, quæ te, crudeli Daunia bello
Insequitur; nos si pellant, nihil afore credunt
Quin omnem Hesperiam penitus sua sub juga mittant,
Et mare, quod supra, teneant, quodque alluit infra.”

VIRGIL: *Æneid*, VIII.

“ Among the rest which in that space befell
There came two springals of full tender yeares,
Far thence from forrein land where they did dwell
To seek for succour of her and her Peares
With humble prayers and intreatfull teares;
Sent by their mother who, a widow, was
Wrapt in great dolours and in deadly feares
By a strong Tyrant, who invaded has
Her land, and slain her children ruefully, alas !

“ Her name was Belgæ; who in former age
A lady of great worth and wealth had been
And mother of a frutefull heritage.”

SPENSER: *Faerie Queene*, V., 10.

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CHAPTER I

THE SURPRISE

Now that the greatest war that was ever fought has come and gone, some of those who took part in it will wish to set down the thoughts that it aroused in them and the things that they have seen. We are still unable to grasp its enormous dimensions and the full consequences that will follow it, but we have time now to take breath and reflect.

I suppose there was never a war which to future historians will appear more obvious in its oncoming. The past history of Prussia up to 1870, and the conduct of the German Empire from 1871 to 1914, will seem to all who read of them in the future to lead inevitably to this climax. They will never understand how men in England can have been so blind as to believe that it could ultimately be avoided. They will wonder how we can have so misread the signs of our own times, and how we can have been so ignorant of the intentions which Germany in many ways expressed as not to prepare for the struggle or guard against the danger. They will hardly realize how true it is that men believe what they wish rather than what is plain before their eyes, nor how easy it is to persuade a nation intent upon its domestic concerns that those who raise a cry of warning are enemies of the public.

Yet it remains the truth, however strange it may appear to our posterity, that no nation was ever more surprised by the outbreak of a capital war than we in August, 1914. In a commonwealth like ours the enormous majority of voters are totally ignorant of foreign nations, and can neither read what is written nor understand what is said in a foreign tongue. They cannot comprehend the tendencies of international politics, nor the influences which govern them. It does not enter their heads that the order of things to which they have been accustomed, though it seems to themselves a matter of course, may to other nations be a perpetual source of envy and of rage. Feeling that in their own country politics are more or less ruled by popular desire, which, save at moments of great excitement, is always for the preservation of peace, they do not realize for how little their own class counts in nations of another constitution, nor what power an autocratic Government can wield.

If this was the temper of the common people, how, it will be asked by our descendants, was it possible that those who were better able to judge did not enlighten them? Were there not politicians who could read the times, or soldiers and sailors who could estimate the danger? How was it that no effort was made to awaken the public? They will be met with the answer that the politicians were afraid and the soldiers were disbelieved. They will learn that the greatest soldier of the time, a man loved for his pure and simple life, respected for his unselfish devotion to the interest of his country, and acknowledged by all to be the highest authority that we possessed on military subjects, had tried for fifteen years to rouse the people to a sense of danger, had told them that if peace was to be pre-

served defence must be strengthened, and had urged them to prepare themselves by some slight training for the trials that might come; that he had been treated at first with indifference and then with obloquy; that politicians had so far forgotten themselves as to maintain that in warning his own country he was provoking others, and had not been ashamed to twist his words for their own purpose to a meaning that was not his; and that not until a year or so before the war broke out did the temper of the people, though not that of the politicians, change towards the man who had devoted his last years, as all the rest of his life, to their interest and their safety.

And what of the politicians themselves? Historians will acknowledge that the position of Parliament and the estimation in which it was held throughout the country had greatly fallen in the opening years of the twentieth century. There had been far stricter party discipline, and in consequence far less of the independence which with the English always carries the most respect. The party had become a machine, and the individual had lost his freedom. The payment of members, though necessary for the representation of labour, had produced its usual effect in lowering the respect in which the representative was held. The electors had more and more governed their members, and the caucus had governed the electors. On the other hand, the Cabinet had increased its power at the expense of Parliament, for it was the only force that could carry legislation through the immense mass of business which swamped the powers of the House; and yet the Cabinet was in turn governed by the unknown and unrecognized managers of the party machinery. We had begun to nourish "bosses." The representatives had been either ignorant or afraid. Wishing for peace and recognizing the horror of war, they

had been so foolish as to think that what seemed good to a nation that ruled a fifth part of the globe would commend itself also to a nation that thirsted for more power and for more possessions. Ignorant of the might of Germany, more ignorant still of the envy and contempt with which she regarded us, ignorant, most of all, of the extreme danger in which a German victory would place England, they united to blind the country to the true state of the case. There were some in great positions who had had the means of judging and who claimed to have foreseen the event. The country rightly held theirs to be the greater blame. It was said that the public would not listen. But it is the business of Ministers to teach it and to make it hear. If leaders cannot lead, of what use are they? It was more true to say that they feared to precipitate the crisis they foresaw. For it had come to this, that as in a household all yield to the worst temper in the family, so in Europe we were frightened to provoke the most unfriendly nation. But the consequence for us was serious. No word of warning fell from any official lips, no effort was made to improve our condition. The Arsenal had been robbed of many of its best workmen; they were not replaced. The stock of guns, rifles, and ammunition was small, but no effort was made to increase the sources of supply. In 1913 many leading Liberals joined in a memorial urging the diminution of the Navy, and were met with sympathy by the Chancellor of the Exchequer.

They had a rude awakening. Luckily for the nation, Germany's first step in the war, the invasion of Belgium, whose independence she had herself guaranteed, not only called upon us in such a way that no party, hardly even an individual, could raise a hindering voice, but also opened the eyes of all to the unscrupulous character of

German policy, which, though often alleged, had been continually denied by those who were her friends. Her barbarous cruelty to the invaded country drove the lesson home. And, lest there should be any fear of our forgetting it, she continually, by such acts as the sinking of the *Lusitania*, the *Sussex*, and other passenger ships, by the Zeppelin raids upon open towns, by the brutal treatment of prisoners and the deportation and forced labour inflicted upon civilians, kept alive the anger of the nation, and hardened it into a resolution far more determined than ever was aroused by the prolonged struggle against Napoleon. Among the loudest were some of the very men who had been the strongest believers in peace and the bitterest opponents of preparation. They were glad to show that their hearts were sound though their heads were not.

Nor could any class in Germany escape the general condemnation. The teachers had been among the first to foster the idea of aggression. The clergy preached in the same vein, and uttered no word of reprobation against the barbarities inflicted by Germany upon Belgium, or the dreadful cruelty practised upon the Armenians by the Turks. When the *Lusitania* was sunk the school children celebrated the crime by a holiday.

The commercial classes, again, had lent themselves to the extraordinary system of espionage which the German Government had elaborated not only in all European countries but in such distant centres as Hong Kong, in a way which forbade their ever again being treated as friends.

The Germans at the present time complain of our attitude as unjust. Nothing is more extraordinary than their apparent belief that, the war once over, the world should immediately welcome them with open arms.

That they were ignorant of other nations we knew. That though their professors were erudite and their spies most highly trained they were incapable of understanding other cultures than their own we recognized. But it is a new and a surprising thing to find them so unreflecting as to be forgetful of themselves. They pose now as a gentle and a trusting people misled by their rulers. All that was done wrong was done against their will. They had no love of war, no desire for conquest, no thought but to defend their homes against aggression. Have they forgotten the years of boasting, of insult, and of steady, unremitting preparation for attack? What voice was raised against the invasion of Belgium, the greatest public treachery within the memory of man; against the murderous warfare of the submarines on merchant shipping; against the wholesale robbery of Belgium and French property, or the deportation of men and girls in the invaded districts? What were the terms that they imposed on Russia and Roumania? What, almost to the last, while they yet had hope of victory, those that they proposed to force on Belgium, France, and England?

Our statesmen, whatever their mistakes before, have through the war steadily maintained three principles—first, that the system of the Prussian military rule must be for ever broken; second, that at all costs we must have security for the future; and third, that full reparation must be exacted for the past. Those things have been rendered necessary by the conduct of the German Government before and during the war. If to that it is added that the Germans have also lost all goodwill among the nations of Europe, they owe it to the fact that they, from the highest to the lowest, with hardly any exception, deliberately approved that conduct.

CHAPTER II

THE TWO IDEALS

THERE can hardly be a greater contrast than that afforded by the political ideals of Germany and of England in their views both of the relations which should exist between the citizen and the state and of those which the state should hold to other states. Each has roused the highest enthusiasm in its own people, and deserves attention on that account if on no other, for such feelings are not excited except by ideals which possess great qualities.

In those nations who have the Western spirit of independence the incentive to political action has nearly always been the desire to remove oppression and to secure more justice and more freedom for the individual. Partly owing to the isolated position of our country, which preserved us from the wars which continually harassed others, and partly owing to the extremely independent character of our people, we succeeded earlier than other nations in these efforts. Political power was in England sought less for itself than as a means of curbing privilege, and was not granted on any theory of right, but was yielded to the superior force of the discontented as the best means of remedying the evils of which they complained. Yet the effect has been the same, and it is now a constitutional maxim that every English man and woman has a right to a more or less

equal share in deciding the action of the state. Such a belief is a testimony to the national self-respect. It implies not only a belief in the capacity of the individual to understand public questions, but also a confidence that his decision will be taken for the public good. That is a noble and an inspiring view, and the nations which adopt it elevate each of their citizens in dignity and estimation. They expect every man to do his duty, and they entrust to each man the burden of thought and decision.

Who that knows England can deny that in all classes the majority face that task seriously? Newspapers, which thrive upon sensation, do much to promote discord. The extravagances of the rich and the extravagances of the poor are described with such emphasis that we obtain a false view of both. Many of us, both rich and poor, are very ignorant. Many of us are very foolish, and our ignorance and folly are great public dangers. But the great majority of both are sensible men, who consider questions fairly and conscientiously, and consider them in the same way. You will meet different opinions, but in the great mass of people you will find the basis of thought the same. And even for the hotheaded and the prejudiced of either party the best cure is experience, and that is impossible in politics or any other art without responsibility. We have said that our people are to be trusted, and we are not likely to reverse that judgment, for one reason because we really every one of us believe it, and for another because the English never have given and never will give a blind service. You are obliged to trust them because they cannot be compelled. They will do anything and sacrifice anything when they see the necessity, but they insist upon making such efforts of their own free will

and choice. With men of that quality threats are useless, but if you can persuade them that your view is right they will never turn back.

But ours is not the only noble ideal in the world. While we insisted on the responsibility of each member of the nation to take his share in governing the country, the Germans insisted rather on the duty of each to obey those who govern for the good of the whole and are selected by Providence for the purpose. The idea of influencing the policy of his country was not present in the mind of the ordinary German, and he did not feel its lack. The Ministers were not responsible to the electorate, but to the Kaiser alone; in Prussia, the greatest German nation, the franchise was so constituted as to exclude the power of numbers. Germany was a collection of more or less autocratic Governments, and the German Empire was the most unlimited autocracy that existed in the world. The Kaiser claimed to rule by Divine right, and unquestioning obedience was the duty that he exacted from every one of his subjects. The privileged classes willingly surrendered their independence for the public good, the unprivileged were not consulted.

Such claims have failed in other countries because monarchs who have put them forward have governed their people ill. That was not the case in Germany, and her administration was probably the best in the world. Justice was pure, education was good. Manufactures, commerce, and agriculture, skilfully protected, had been developed with unprecedented success, and although there were struggles in Germany as in every other country between labour and capital, they had not led to such open war as in England or France. Life was a good deal restricted, it is true; but the shorn lamb gets

accustomed to the shearing, and we ourselves, who multiply each day restrictions on individual liberty, and have submitted for a century to the income tax, can understand that it is rather the novelty that causes irritation than any continued feeling of oppression or injustice. To the German at any rate the yoke seemed light, and he was best able to judge.

That is the opposite pole of political thought to our own, but it was suited to the Germans, and it excited their enthusiasm by reason of the noble idea of self-sacrifice for the public good on which it rests. For if it is true that man as a whole is governed by his material interests, it is no less true that it is not these but the refusal of these which rouses in him the deepest passion and the greatest effort. The ideal of self-sacrifice is the paradox that has been at the bottom of all the great religious and irreligious movements of the world. It had that effect in Germany; and while we despised the docility with which the Germans submitted to their exclusion from political power, they contrasted their unselfish devotion to the state with the continual claims for public assistance and refusal of public service which marked recent political life in England, and appeared to them the height of unpatriotic selfishness.

The dangers of the German obedience have been shown often enough by the abominable crimes of which their Government was guilty during the war, but perhaps its greatest condemnation is afforded by the results of the system upon Germany itself. Ill success completely destroyed the trust of Germans in their own rulers, and when the official chiefs were deposed there was no one to take their place. The French defeat produced men like Gambetta and Thiers, who, whatever we may think of them, played a great part for their country. But

German autocracy had starved German thought. Not a single great man has emerged from the chaos of defeat. The spectacle that Germany offers is so pitiable that if that is the result of obedience I would almost liefer see England plunged in anarchy.

When we turn to the views of the foreign relations of the state which we and the Germans held, the contrast is even more striking. Prussia had for the last two hundred years constantly sought to extend her influence in Europe, and war was the only means of doing it. The tradition of Frederic the Great had remained with her, and the principles upon which he acted were those which she still professed. The aggrandizement of Prussia had been the chief aim of her rulers from that time to this, and had justified in their eyes actions of which other nations took a different view. The wars on Denmark, Austria, and France made her the greatest military power in Europe. Still she was not content. For one thing, she lived in constant dread of the Powers she had provoked, and for another she had conceived the idea of becoming the greatest Power not only of Europe but of the world. England stood in her way, but for the last fifty years she had been convinced that our Empire was living on credit which we were too pusillanimous to defend, and that she had only to attack us under favourable circumstances to destroy our power and succeed to the heritage we were too weak to rule.

In some respects she was not far wrong. The burden of armaments had created great discontent; there was a general failure to recognize danger, and in consequence a general unwillingness to prepare for it. It cannot be doubted that if the process had gone on much longer we should have reached a condition of weakness which would have prevented us from stemming the tide

of German attack and from creating the army and the equipment necessary for victory. The war came just in time.

England, on the other hand, had for the last two hundred years followed but one principle in European politics—to set herself against any attempt on the part of one Power to overawe and dominate the rest. Such enterprises seem to take place about once in every century. We fought Philip II. at the end of the sixteenth, Louis XIV. in the first years of the eighteenth century, Napoleon a hundred years later, and now, after just a century's interval, the Napoléon manqué of Germany has again brought us into the field. But we can hardly say of ourselves that we have not made war during these two centuries for our own aggrandizement. We had no chance of gaining territory in Europe, and we wisely refrained from the attempt. But we made up for it in other parts of the world; and if we now declaim against those who disturb the public peace, we must at any rate allow that, as we hold about a fifth part of the habitable globe, we have little to gain and much to lose by war, and are naturally prejudiced against it. It hardly becomes us to boast of a virtue that is of very recent growth, and rests upon such solid grounds of self-interest. I can understand our driving other people mad with rage as we carry, in Bismarck's words, a Bible in one hand and a pipe of opium in the other. If he had lived to see the Liberals opposing India's wish to remove the excise on her own cotton, he would have sneered still more. The virtuous are always open to the taunt of hypocrisy, and when their sins are invariably profitable, it is difficult to distinguish between the two habits of mind.

CHAPTER III

THE TWO TEMPERS

THE temper of the two countries before the war was almost as different as their institutions.

Patriotism is generally regarded as one of the highest virtues, though it occasionally conflicts with others. It varies in different times and in different countries both in quantity and quality. In Germany it was both strong and offensive. It was cultivated by every possible means in the school, in the university, and in the regiment. Mr. Owen Wister* gives an amusing instance of the division of America in a geography-book used in a Berlin girls' school into the black zone, the Indian reservations, and the land occupied by "Teutons." American girls at the school were questioned as to their race. They were not black, and as they were not Germans they must be Indians, for the school book said that between them they occupied the whole of the United States. To the amusement of the rest of the world, Shakespeare was claimed as an overseas German and Chartres Cathedral as a monument of German genius. In the university since the time of Treitschke the student had been taught that England was lazy, which was true, and cowardly, which was not true, and that the Germans had but to reach forth their hands and take the rich prizes of the British Empire. In the army the officers

* "The Pentecost of Calamity."

carried this spirit to excess. Throughout Germany the day of reckoning with England was a popular toast.

Germany had indeed much to be proud of. She has in a greater degree than any nation the power of continuous methodical labour. Her people are docile, and a highly centralized government has been able to produce an administration in some ways more benevolent and much more orderly than ours. She had the greatest army in Europe, and was justly proud of the self-sacrifice by which it was maintained. Her navy was great and growing. She revered learning, and her universities were the resort of students from all nations. In my own profession those who intended to follow the science of medicine went to Germany to learn method; those who wished to practise the art, especially the surgical branch of it, went there because they found more clinical material at their disposal than in their own country. A young surgeon who obtained the post of Assistant in a clinic could practically do as many operations as he chose, whereas in England or the Dominions the senior surgeons themselves were held responsible and did not intrust their important operations to young men. But these opportunities were confined to the intellectual aristocracy. I do not think that any one questions that the rank and file of German medical students were much less efficiently taught than in England. Some points in the education, notably the system of lectures, were better than ours, but the clinical instruction in England was far superior. English medical education was always dominated by the idea of the public safety. Our teaching and our tests were directed rather to the practical efficiency of students than to their scientific training. The means to improve the latter is now the subject of great discussion in our

schools. But the former, which we recognize as essential, was of little account in Germany.

In manufacture they could give us many a lesson. They were always on the watch for the teaching of science, and recognized its importance for industry. One of their greatest manufactures, the making of dyes, was founded on the discoveries of Professor Perkins, which English manufacturers had refused to take up. Germany was the great source of glass for scientific purposes and especially for lenses. There was a house in Paris whose work was good, but in England there was nothing to compete with German products. Even now I am told that our lenses do not equal those which the Germans made. But glass was at one time a great trade with us, and the Germans took it up because we failed to supply as good or as accurate glass work as was required. For similar reasons the making of drugs had become in large measure a German monopoly. In all such industries an immense number of chemists was employed, and the results of their experiments were daily turned to the improvement and extension of production. With us a good deal of encouragement has been given to discoveries in the metal and textile trades, but not even there as much as in Germany. Chemistry has been so much neglected that chemists find hardly any posts open to them after taking a degree, and Government actually advertised for them at a salary of about £3 a week.

German commerce is very speculative, but it has been very successful. They have something of the American romance in business and love of large operations, which in England is almost confined to engineering. They have seized upon the principle of combination on a large scale both here and in manufacture, and they have been aided by their banks, which were founded directly for that pur-

pose rather than, like ours, for the deposit of savings. It was remarked to me by an American that the English would often invest large sums in opening up a new trade route, but that they refused money for the scientific discovery which is at the bottom of all manufacture.

But with all this the main work of Germany in the world has been rather the application of discoveries than discovery itself. She has not done more than her share in the latter field; I doubt if she has done as much. In my own profession sanitary science was developed in England, Pasteur laid the foundation of all modern pathology, and on his teaching Lister remodelled surgery. The discovery of anæsthetics, which has enabled all the great advance in practical surgery to occur, was the work of Morton and Simpson. None of these, which are the great achievements of the last hundred years, have been of German origin. But Germany has done an immense amount of sound and valuable work in all branches both of our science and of our art. A good illustration of her thorough and laborious method is given by the discovery of the drug that used to be called 606. Ehrlich, who carried one line of Pasteur's teaching farther than any other man of his time, was impressed with the belief that arsenic was a specific for syphilis. It is, however, a very poisonous drug, and he set himself to discover some form of combination which would cause the greatest damage to the spirochæte which produces syphilis and the least to the man. A famous manufactory supplied him with combination after combination of arsenic with various other bodies until the six hundred and sixth attempt produced a body which fulfilled his requirements. There is no better example of that ungrudging labour and co-operation of many brains to the one end by which Germany excites our admiration.

Germany was at one time supreme in music, and German philosophy has always held a high position. Of late, however, it had taken a strange direction. In a destructive criticism of the Christian doctrine it had arrived at the conclusion that love and compassion were not of Divine inspiration, but were the defence put forward by human weakness to protect itself, and that the ideal was a life of ruthless force, offering no apology and obeying no law. It had played directly into the hands of the highly practical and wholly unphilosophic soldiers of Prussia, who taught that warfare was not only a necessary but a salutary state; that the finest expression of the national spirit was the nation in arms; and that when war could be waged with success it was a religious duty to engage in it, since thus alone could power be placed in the hands fit to wield it and the obvious design of Providence be carried out.

But although this phantasy is of interest to those who care to watch the varying tendencies of human thought, it is not of the importance which young Germany ascribed to it. It is logical enough, but it is logical because it gives up in despair the attempt to recognize and understand the full complexity of life. It is a hemianopic view, for it shuts off from the field of vision one-half of the impulses of humanity. It is too partial to be called a great philosophy. The real glory of Germany lay not in this, nor in her commerce, her science, or her art. It was something greater and deeper than all these. It was her sincere reverence for learning and for labour, and her real comprehension of the dignity of both. It is in this that she can read us the greatest lesson of all. While she worshipped work we worshipped play. While she fostered learning and discovery, though of late she had yoked them to the car of material

prosperity, we had not even the insight to perceive their value as a source of wealth. She was always ready to finance great educational measures and to aid schemes of new discovery and research, while we left our laboratories to starve and our explorers to depend on private contributions. The standard of living among her learned men was simple and ascetic, and the standard of work was very high.

The greatest trial that is set to any nation is the trial of success, and success had come too rapidly to Germany to allow her to withstand its temptations. Riches had corrupted her as they corrupt us all, and inexperience had led her into vulgarities which others had in a measure outgrown. She perhaps did not possess that fineness of temper which even in the worst degradation of France and Italy preserved the beauty of their civilization. Germany certainly was unlovely in her prosperity, and became a notorious example of the arrogance and bad manners with which unaccustomed wealth often inspires its possessors.

And this arrogance led to the great weakness of the German nation—an ignorance of the outer world, which was strange in so studious a nation. The best illustration of it is given by the present war. They believed that at home we were so much divided and in the rest of the Empire so much disliked that on a declaration of war Ireland and India would openly revolt, the Dominions cast off their allegiance, and the working men of England refuse to serve. They had so little fathomed the English temper as to think that because we quarrelled like cat and dog on our own hearth there was no tie that bound us to the country and no feeling for the national obligations. Because we openly desired peace they inferred that we were too cowardly to accept the bitter

trial of a great war. They might have read our history to more advantage, and they might have remembered the saying of their Chancellor that we were a most unmilitary but a very warlike nation.

Such a misconception was not perhaps a matter of great wonder. After centuries of disunion and weakness, Germany had attained a consciousness of nationality. She owed that to Prussia, and it is well for us not to expect her to forget it, for it is nearly the greatest boon that a nation can receive. With it she had attained the greatest position on the Continent of Europe, and had laid her foes one after the other prostrate at her feet. It is not astonishing that she was intoxicated by her own success, nor that she should think that ways that were not German and thoughts that ran on other lines were unworthy of respect.

In contrast to all this, never had the profession of patriotism been so little in evidence in England as in recent years. In some part this was due to a sincere revolt against national injustice. Power has never been obtained by means that are wholly justifiable, and every nation must have an uneasy conscience when reflecting on the past, if it has a conscience at all. The greater the power the more are the opportunities for self-accusation, and in England these were so much utilized for edification that many began to look upon any expression of national enthusiasm with distrust. To fly the national flag over the national schools was regarded as a dangerous appeal to the warlike impulses of the young.

The safety of our geographical position acted in the same direction. We had for sixty years been free from European war, and for over a hundred from any fear of an invasion. Such security leads a nation to think that war is a calamity which can always be avoided. We

had been involved in a war in South Africa, but it had been throughout disapproved by many, and had been a source of shame to us all. It had strained all our resources to beat a civilian army of less than 80,000 men, and the weakness of the higher command was equalled only by the badness of the supply and medical departments. It was indeed our salvation, for it produced drastic reform in the army, though the nation refused to carry out the general training that the experts advised. But it increased the distaste for war and the distrust with which any preparation for it was regarded.

In addition to these causes, there was a third, which had perhaps a still stronger though less well recognized influence. For many years all European countries had been the scene of a fierce and bitter struggle over the distribution of profits. It had led to a belief in the ranks of labour that her cause was an international bond overriding the claims of country, and that war would be prevented by a general strike in the countries concerned. It is clear from the writings of some members of our own Labour Party that they were deeply disappointed that their fellows did not take this course.

These were antecedents of long standing, but there were in addition political divisions at the moment which threatened to weaken the nation and prevent united action. The chief of these was the Irish question. The Home Rule Act had been passed, and Ulster was preparing to resist it by force. It is customary among Liberals to call the attitude of Ulster rebellion. This is an insufficient description. Although, as usual, it was a revolt against a grievance, it implied a deliberate resolve to settle a political principle of the first magnitude by taking it, as such matters have been taken before, to the ultimate appeal of force. It ill becomes us who

praise our fathers for the part they played in the seventeenth century to blame their children if, on sufficient provocation, they follow in their footsteps. Whether sufficient or no can be judged only, as such issues always have been judged, by the result.

It may seem perhaps not a matter of very great importance to the kingdom at large whether Ulster was included in the Home Rule Act or no. But though ship-money was not a large sum in itself, and though Hampden lost his case before the courts, yet it cost the King his crown, and we recognize now that in that quarrel was involved the whole question of English freedom. The settlement of the Irish question similarly involved a definition, which to a democracy is of the first importance—the definition, which has hitherto been left obscure, of the rights of a majority.

Our constitutional history is a series of struggles to limit the power of the Sovereign. At first the King declared himself to have a Divine right to deal with the lives and property of his subjects as he would, and the Tories of that day declared that resistance to his power was wicked and sacrilegious. A certain number of his subjects held a different opinion, set out to prove him wrong, and succeeded. The King's claim is now acknowledged not only to be indefensible since that date, but to have been unfounded all along. But we did not know that before.

Since the government became democratic the majority of voters has stepped into the place of the Sovereign, and Liberal speakers and writers now use just the same language about resistance to its will as was used by the Tories of old. Divine right has descended upon the King's successor, and it is in these days wicked and sacrilegious to refuse to accept the decree of the majority.

The latter position is even more ridiculous than the former. The majority of the nation changes its opinions with almost every election, and the election itself may, and indeed almost always does, give a very unfair representation of the national will. The result is always hailed as a mistake by the defeated side, who continue to uphold their own policy and to denounce that which is in favour for the time. In many cases laws passed by one party are either altered or abolished when their opponents come into power, and the Opposition does not scruple to declaim against the proposals of Government as wicked, unjust, or, which is a still graver charge, unconstitutional. It is a recognition of this doubtful balance that has led to the spirit of compromise which usually marks our legislation, much in the naïve spirit which, not feeling sure that the accused is guilty of murder, sentences him to penal servitude.

While, therefore, it is necessary in a commonwealth such as ours almost always to conform to the wishes of the majority, it cannot be granted that a majority must needs always be in the right, and it must be allowed that it may occasionally be flagrantly in the wrong.

The Home Rule Act involved the principle that the majority can deprive a minority, without any fault committed, and against its own wish, of the full rights of citizenship of the United Kingdom, which it has up to that time enjoyed. That is the claim which Ulster called in question.

It is true that certain boroughs have been temporarily disfranchised, but that has been the punishment of gross corruption. It is true that the Act of Union deprived Ireland of its own Parliament, but it can hardly be cited as a precedent. In the first place, it was carried by a majority, however obtained, of the Irish Parliament

itself. In the second, it raised the voters to citizenship in a greater body, and gave them rights of government over a much greater field than they possessed before. In the third, it has ever since been denounced as an act of injustice by the Irish themselves, and lately by the Liberals, and would certainly never be carried if it were proposed to-day.

The Home Rule Act deprived Ulster of the protection of Parliament, and curtailed her share in its activities, to the full preservation of which she tenaciously clung. That, in her opinion, was an act of injustice so flagrant that no sovereign, whether King or majority, had the right to commit it, and she, like the Roundheads, said that she would prove her contention to be correct. She took the only course open to her, a course already sanctioned by our history, and she did in effect show that she was right. For, whether we agree or disagree with the feelings of Ulster, there can be no doubt that we now all allow that her coercion will be as impossible in the future as it would have been had the effort been seriously attempted in the past. It was indeed pretty clear in 1914 that no actual fighting would take place, for the feeling of the country was changing fast at the threat of civil war, and the army would have refused to allow it. The case was won, and though we hope and expect that the differences of the Irish may be appeased, and Ulster agree to join in governing Ireland, yet we shall find that she has established the principle for which she rose, and that we have added, unconsciously as usual, another permanent axiom to that remarkable production the British Constitution.

To turn from great things to things which were not so great, another question that divided men, and women too, in 1914 was Female Suffrage. It had long been the

creed of a few politicians of both parties, and it had lately secured a larger number of adherents, while it was held by the majority, and abhorred by the minority, of the best and most public-spirited women of the country with equal vehemence. The militant section of the party made itself very obnoxious, and no doubt gave a welcome excuse to many men for not pushing the question. We are not an imaginative race, and we did not liken the suffrage movement to that of Ulster. Both were in rebellion, though only the women actually professed it. But no man laughed at Ulster, and I am sorry to say that even sympathizers with the suffragists laughed at the suffragettes. It is an immense pleasure to reflect that in this case the claim has been established sheerly on its merits. Rowdyism undoubtedly delayed the cause. But whereas the only logical ground put forward by men against it was the inability of women to fight, the war showed that women could and would share with men the labour, often the dangerous labour, which was as necessary to victory as the firing of a rifle or the throwing of a bomb. No one now doubts that women's suffrage was won by women's work. Men who would have been ashamed to grant it because their windows were broken, have yielded it willingly to those who have taken so great a share in the labours and horrors of the war.

To those who did not understand the English, and they may be roughly classed as the rest of the world, it is not very strange that these quarrels seemed evidence of a hopeless disunion and a profound disloyalty. I hardly know anything finer in history—I have certainly seen nothing finer in my own life—than the sudden calm which fell on public life, the oblivion of private strife, and the quiet, sad resolution—for we knew enough what was

before us to stop all boasting, and the danger was imminent—to do all we could, and to suffer all we must, for a cause which meant no profit to ourselves—the less creditable trade cries came much later—but simply the fulfilment of an obligation to protect a weak nation most treacherously attacked by a Power who had signed the same treaty as ourselves.

CHAPTER IV

THE STAKE

BUT as this war was certainly not fought for gain, so neither was it fought only for our own preservation or to fulfil our duty to those who trusted in our promises. Our Empire was indeed at stake, and our very existence as an independent nation threatened, for what hope would there be for our commerce with the German Navy in the waters of the Scheldt? We had set our hand to a treaty to protect Belgian independence, and we were not prepared, because Germany violated her public faith, to go back on our own, or to leave the Belgians, for whom we felt great pity, at the mercy of German treachery, out of fear of danger to ourselves. These thoughts were enough to make men who could understand the danger, and feel indignation at the wrong, ready to take their part in the fight. But they were not all. This war was, quite as much as were the early wars of revolutionary France, a war for great ideals. Just as those were fought for the cause of freedom against the powers that championed oppression, of whom England was one, so was this war fought not only to preserve the freedom of nations for which we were responsible, but for an even greater thing than this—to preserve the essentials of progress and civilization.

The vulgar idea of progress or civilization is an advance in material prosperity. People who are civilized wear

clothes, the uncivilized do not. The former eat meat and potatoes, and the latter eat what they can get.

Educated men commonly connect the words with those wonderful inventions which have increased the wealth of the world or the ease of its means of communication. For them the products of civilization are the manufactory and the ocean liner. A few of the more enlightened will think of the growth of knowledge which lies at the back of these inventions, and will speak of the advances of mathematics, of chemical or physical science, or perhaps of the biological group, human pathology or physiology, or the work of Darwin and Bateson. Still fewer will refer to another sphere, such as improvement in the fine arts or to development in social or political organization.

But progress means something more and something greater than any of these answers imply. It means not only that men have greater opportunities, but that human nature has itself risen to a higher level than before. That claim can hardly be satisfied by mere increase of wealth. It is true that a sufficiency is necessary for improvement, for while a man feels hunger he feels little else, nor is an empty belly the mother of great thoughts. Asceticism, which for the most part is but plain living, is good for a man, but starvation cripples him. In so far, then, as prosperity has fed the hungry and clothed the bare, it has been necessary for progress.

But by far the larger part of the increase in the world's wealth has in past times provided, and now provides, not necessities, but luxuries for both rich and poor. A certain proportion of us still have less than enough to eat, but the things unnecessary even in food and clothing alone would more than satisfy their wants. There is a large surplus above what is needed, for a man's desires

keep pace with his supplies, and in all classes of society the luxury of yesterday is the comfort of to-day and the necessary of to-morrow. It will not seriously be maintained that such gains as these are essentials of progress, or that the prevalence of lounge-chairs has rendered us either better than our fathers, who sat upright, or happier. Yet either to virtue or to happiness we should, I suppose, look to find indications of true progress.

Nor, though the claim is more plausible, does the advance of knowledge afford better evidence. Any school-boy may know more than Aristotle knew, but that does not prove him a greater intellect. Knowledge is a wall that rises slowly year by year. We see farther than our fathers, for we stand on the stones they laid; our heads are higher from the ground, but we are no taller than they were. And if we compare, not to-day with long ago, but the civilized man with the uncivilized at the present time, the traveller gives the same answer: "In mere brain-power and intellectual capacity there seems no great difference between the civilized European and the rough hill-tribesman of the Himalayas." "In the rude hill States of Hunza and Chitral the average ability is certainly not inferior to the average of a European people."*

Art—plastic art, at least—is in part a perception of things, in part a reproduction of them, and in part appreciation of their loveliness. We are always perceiving more clearly what we see, and in that way are better able to render it. One age discovers perspective, which means that it realizes that the human eye refracts the light and alters parallel into converging lines. Now

* Sir Francis Younghusband, "The Heart of a Continent," p. 396.

that the painter recognizes what he really sees, instead of thinking, like a child, that he sees what is really there, he paints what he really sees, the thing as it is not, and produces thereby a better impression of what he does not see, the thing as it is. But that is but a piece of technical knowledge, a stone laid in the wall. Does he more truly appreciate the beauty of the thing he sees—for that is his virtue—than did the men of old? Is beauty more beautiful to the painter of to-day than to the Florentines or Venetians? Or can he see beauty where they could not? No one, I think, would maintain either of those claims.

And, lastly, let us look at political and social life. At a time when statesmen have guided the world into the greatest disaster that it has ever known we shall hardly establish any great improvement in the art of government. And yet, are not laws better and justice more secure than in times gone by? Would the cruelty of a feudal baron or of the Spanish Inquisition be possible now? Or, to appeal again to contemporary events, has not the cruelty of the Turks to the Armenians, or of the Germans to the Belgians, shocked the sense of civilized nations? It is here that we seem to grasp the difference, and to reach the essentials, the touchstone of civilization. And they are justice, which is the denial of privilege to the strong and the assertion of the right of the weak, and liberty, which is the recognition that a man shall not be deprived of his life, his family, or his property, and shall be allowed to speak and act according to his mind, yet so as he do not interfere with the like freedom in others, and so as he fulfil the duties which the state demands of him.

The spread of these great ideas has been by no means a simple nor even always a matter worthy of great

praise. A large share in it, no doubt, is due to religion, and especially to Christianity, an essential doctrine of which is to love one's neighbour as oneself. But if the love of our fellow-man has played a great part in it, equally great has been the influence of fear. The weak, at the cost of enormous suffering, have combined to defy and defeat the strong, and the strong have been compelled by force to accept the terms imposed. Men have been both drawn and driven upwards and have by this means and by that, in countries that are civilized, been constrained to acknowledge the great principle that might is not right, and that the rich and the poor, the weak and the strong, are equal before the law.

This doctrine has not yet bitten very deep, for such an immense paradox must needs take time before it can become instinctive. But law, which is the evidence of present attainment, is daily coercing laggards, and in front of it there daily grows in the lives of good men a body of custom which will form the law of the future. In all countries that are civilized justice and freedom are increasing every day, and it is this, the aim of good men in all time, that is progress, and that is civilization.

The public morality is always far behind the private. A company has been described as a body which has neither a soul to be saved nor buttocks to be kicked. The larger the association, the truer the criticism. When many men act together responsibility is both diminished and increased. On the one hand no individual feels himself wholly responsible for the act of all and shelters himself behind others. Men will thus do in common what each would be ashamed to do by himself. But, in addition—and this is still more powerful an influence—each feels that he will be acting, not for himself alone, but for a body whose interests he is bound to protect



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and further. In civil life he will, for the society which he represents, use every advantage which is given by the law of his country, and in international affairs, where the power of law is much weaker and its prescriptions less definite, there is always the feeling that the ideals of his country are in advance of others, and that to extend her influence is in the long run to benefit the world.

Yet even in international matters there has been some progress. There had grown up a general recognition of the binding character of treaties and of the obligations of public faith. In the dealings of civilized countries among themselves arbitration had been frequently accepted in place of a decision by force. Where lower races were concerned, the United States, the Dominions, and England had all in separate instances reserved lands for their use alone. And, lastly, by the Conventions of Geneva and the Hague, regulations had been adopted which should mitigate the suffering of war and secure certain rights both for combatants and for the civil population.

It is not too much to say that Germany had set her face against this spirit of progress while the world was yet at peace, and that she has violated it throughout the war. She was the great opponent at The Hague of proposals tending to restrict the freedom of belligerents to use all means, however horrible, to attain the victory, and she has conducted this war with a brutal cruelty to the civil populations of the land and of the sea which has no parallel in modern times. She has maintained that what she chooses to call military necessity justifies any perfidy, and fear any barbarity. If such things had been tolerated, and if such action had attained its ends, civilization and progress would have been destroyed,

and all that the best men of all countries have for centuries striven to obtain would have been brought to naught.

Germany professed that if she obtained supremacy, she would give the world, not only peace, but such a spirit of self-sacrifice for the public good as it had not yet possessed. To those who are not Germans it will appear that the supremacy of Germany was the real aim and the universal good a very secondary object. The Holy Inquisition offered the same apology for the tortures she inflicted upon those whose opinions differed from her own as Germany for the treatment of Belgium and Serbia. Both pleas have been rejected by the civilized world.

CHAPTER V

PERSONAL

IN the last fortnight of July, 1914, I was on Salisbury Plain with the Medical Unit of the O.T.C. of the University of London, of which I was the Commanding Officer. We got back on Saturday, July 31, just in time to avoid the block of traffic which mobilization caused. From the middle of August onwards I was busy helping the C.O. of the 1st London General Hospital, to which, in common with between twenty and thirty of my colleagues at St. Bartholomew's, I was attached *à la suite*.

General Hospitals and Field Ambulances had been formed on a peace footing all over the country in connection with the Territorial Force, and London, having two Territorial divisions, had in consequence four General Hospitals. Sir Alfred Keogh, who was Director General in 1905, came to St. Bartholomew's and invited us to enrol in the *à la suite* service, which was purely for the treatment of patients and had nothing to do with administration. After our Governors had given their permission we all joined, and so it came about that No. 1 General was entirely staffed by St. Bartholomew's men. When war broke out the sisters also were taken from the Association which nurses trained at St. Bartholomew's had formed among themselves. We were therefore all one man's sons and daughters, and as there

is a great deal of esprit de corps at a big school like ours, the relations were very cordial and pleasant.

The buildings that had been chosen for the hospital were the St. Gabriel's Training College for Women Teachers and a large Board School that stood next it opposite a little park of fourteen acres, called Myatt's Fields, in Camberwell. Our C.O. lived close by, in Camberwell New Road, where he was in practice, and these two large blocks were desirable and accessible. The park in front was a great advantage, and each block had an open space—a garden in the one case, playgrounds in the other—of its own. So he reported to the A.D.M.S., who is the Staff Medical Officer of a Division; the latter, having approved, reported to the City of London Territorial Force Association, which was our War Office; and they, having approved, made arrangements with the Governors of St. Gabriel's and with the London County Council, to whom the Board School belonged.

There was, however, a whisper that to the latter body, at any rate, the requisition, when it came, was somewhat of a surprise.

The next thing was to adapt these two buildings for hospital use. St. Gabriel's had an excellent kitchen and larders. By putting in extra ranges and boilers we were able to cook for 200 sick soldiers, 20 sick officers, and the medical officers' mess. The nurses had a kitchen of their own.

There were a good many class-rooms, a concert-room, and other large rooms which, when emptied, made good wards. On the first and second floors there were a number of little rooms, which we turned into sick-rooms for officers and bedrooms for the residents, and a long dormitory with cubicles, which gave sleeping

accommodation for the nurses. At the top was a large room, with a big north light, which was manifestly ordained for an operating theatre. But the sanitary arrangements, though sufficient for the College, were quite inadequate for a population of 300 sick, and we had to build sanitary annexes where we could. In addition, we found it necessary to have a lift to take patients up, and this had to be run down the middle of the building, though it was very inconvenient, because there was no means of putting it outside.

The Board School was still more deficient. There was no kitchen, and the sanitary appliances were almost all in the playground. On the other hand, the construction of the building was very simple, and easily lent itself to wards. Also, we could put up a lift outside the building. There happened to be a separate small block for defective-minded children, and this with a little arrangement made a good isolation block for infectious cases.

In the playground we were able to put a large kitchen to supply the 300 patients and the personnel, who numbered over 100, a large double-ridged hut with dormitories and washing-places for the latter, and a recreation hut for the convalescent patients.

It took us more than two months of unceasing work before the buildings were ready. The lifts, which were originally worked with ropes, had to be supplied with electric power, because it was found to be harder to pull a patient up than to carry him.

During the same time we were getting in our stores. These were according to schedules. The names in the schedules were familiar to the Army Ordnance Department, and if there had been sufficient in stock and we could have supplied ourselves from their stores we should

no doubt have had little trouble. But everything had to be obtained from outside contractors, who neither had the articles required, nor in some cases knew what the descriptions meant.

Sometimes we did not know it either. And several times when we thought of a new want we found, after going backwards and forwards between the Association, the War Office, and the Ordnance Depot at Millbank, that the article we wanted was in the schedule, but had not been recognized, and that something else quite different had been sent in its place.

We knew that for carrying up hot dinners from the kitchen to the wards we must have some form of hot-water metal container to put the dinners in. We saw nothing in the schedule that seemed to describe these, and the contractors had sent none in. The Quartermaster designed an excellent apparatus of the kind, modelled on those we use at St. Bartholomew's, and we applied for leave to order them. Then, and not till then, we discovered that

Trays, diet 40

which was an item in our schedule, were the exact thing we wanted. They had been interpreted by the contractor to mean little wooden trays such as the maid uses to bring a cup of tea.

We knew that in military hospitals a very comfortable blue jacket and trousers were provided as the hospital uniform.

Trousers, serge, lined . . . pairs 780
Waistcoats, serge, lined . . . ,, 624

appeared in the schedule, and we found among the things sent in to us a great pile of dark trousers, some black, some blue, some of rough serge, others, of broad-

cloth, and another pile of ordinary sleeveless waistcoats of the same kinds. It took us some time to discover that the items in the schedule were really the blue uniform we wanted, and to this day I do not know either why there should be 780 pairs of trousers and only 624 waistcoats, or why a comfortable loose jacket should be called a waistcoat.

There was another source of trouble also. The equipment of our hospital was drawn up from that of an Army Base Hospital in the field. In such hospitals the men have their knife, fork, and spoon, they eat out of their mess-tins, and they sleep on the ground or where they can. Our men had not their table equipment, and it seemed unreasonable in London to make the men sleep permanently on boards with only a blanket round them. So we applied for table equipment and beds, and were allowed them.

One Sunday evening in September, when our buildings were still unfinished and unequipped, I was surprised by a visit from my C.O., with the startling news that we were to be ready to take in 500 cases that night. I found when I went to my telephone that it was out of order, which was the reason why the C.O. had had to come to me; but by going round to a neighbour we managed to get into communication with one or two others of our officers. It was evident we must do the best we could. We had no beds or stretchers, so we must get straw. We had no provisions, so we must get bovril, tea, and similar things from wherever we could, and we must warn what officers we could catch to be on the spot. We sent round to a neighbouring battalion headquarters to borrow a wagon. But at this moment there arrived one of us, Bowlby, who had experience of the African War, and was familiar with the War Office.

He expressed his doubts and went off to that institution, while we, expecting to be hard at work all night, decided we had better have something to eat. In about an hour our veteran returned. He reported that he could not get any information at the War Office, but that he had got into communication with our chief. That authority could give no further instructions. But when Bowlby told him that we had no stores and asked for authority to buy some, he answered that he could not give it. Bowlby came back to us, saying that if no provisions could be sanctioned he was quite sure no wounded were coming in, and he was going to bed. It afterwards transpired that the orders had been sent to us, and to other units who were equally unready, by mistake. We had the laugh, for some of the others were up all night waiting for wounded who never came.

It was also in September that at six o'clock one afternoon I was called to the War Office by the Director General. A telegram had been received saying that two ships carrying a large number of Belgian wounded had sailed for Folkestone. Folkestone was the last place where they were wanted, for there was no military hospital there and no personnel, though there were a few men and an officer at Shorncliffe. The Director General therefore asked me if I could get together fifty doctors who would start at once for Folkestone. He had no information as to the character of the wounds, and wished to be prepared for the worst. With the help of my brother-officers of the O.T.C. I collected the requisite number, and we started at ten. Folkestone was pitch dark when we arrived, and we did not know where the wounded were, as all arrangements had been made by the local officer, to whom the Director General had given authority to take what steps he thought

necessary. However, someone at the station thought the Metropole had been taken, and we marched for it. We had thirty nurses with us. On arriving there I reported to the officer I found in charge, a retired R.A.M.C. man, who told me that the Regular officer was still at the docks and that about 250 wounded were in the hotel. A Belgian refugee doctor was at work dressing, and there were some Belgian medical officers with them. We found there was very little to do except to get rooms ready to put them in, and for the next hour or so we were making beds under the direction of the chief Matron. Then the Regular officer who had been entraining the light cases and sending them to hospitals up country came in and told me that there were apparently no more wounded coming, but that there was a ship with 1,000 refugees on board who had had no food for twenty-four hours, and not even water. He asked me to collect food and drink and take it down, and gave me authority to requisition it where I could. It was about one o'clock in the morning, but we managed to get hold of two motor taxis, and while I went off to see what we could obtain elsewhere, we set the Metropole people to work brewing coffee and cocoa and cutting sandwiches out of all they had in stock. Matters were not made easier by the refusal of some of the hotel employés to go on working. Half of us turned in on the sofas and floor of the lounge, and the rest were to come down to the docks to be ready to distribute the food. We found two hotels with food in them, which we laid hold of and brought back to the Metropole, and then carried off in our motors what they had prepared to the docks, where we met the squad that had walked down. There was not a soul about, but we discovered a ship lying on the west side of the pier. Not a sound was to

be heard on board nor a man to be seen, but though they had apparently succumbed to their privations, we hoped we might be able to save a few of them. We ran a gangway on board, and my men rushed forward with the hampers. Just then a small and very sleepy Boy Scout crawled up the gangway to me. I asked him where he came from. He said he had been on the ship, and might he now go off duty and go to bed? He had been feeding the refugees for the last two hours, and they had all gone to sleep. However, my men were not to be denied and the refugees were all awakened and in spite of their protests, fed again.

Shortly after this I was asked to go abroad as a Consulting Physician, and having obtained the permission of the Senate of the University of London, for I was then Vice-Chancellor, I crossed on October 20th, with my colleague, Sir John Rose Bradford. Voluntary effort was not discouraged at that time, and my brother-in-law, C. W. Dixon, not only provided me with his Lanchester car, but also enlisted as a private in the A.S.C. in order to drive me.

After seeing the hospitals at Havre and Rouen, we settled at Boulogne, where the cases were just coming in from the battle of Ypres. The movements had been so rapid and the battle so sudden that the hospitals had only just reached Boulogne in time, and there was great lack of accommodation. The Casino and some large hotels had been taken, and I believe that at first they were turning out the furniture and taking in patients at the same time. In November I was called up to G.H.Q., which was then at St. Omer, to attend Lord Roberts, and was present when he died. Soon after that I was attached to G.H.Q., and took up the work at the front which I continued for the rest of the war.

Sir Anthony Bowlby also was attached to G.H.Q. as Consulting Surgeon. We were contemporaries—I am the elder by about three weeks—we had been colleagues at St. Bartholomew's Hospital and joint Treasurers of the Medical School for more years than I like to remember, and now we were to be colleagues and mess-mates for nearly five years. We had not disagreed before, and we did not fall out now. The companionship was a very great pleasure.

I was the only Consulting Physician at the front until the Fourth Army was formed. At that time, the spring of 1916, G.H.Q. moved to Montreuil, and its Second Echelon, to which I belonged, went to Hesdin. I was then given the Southern Area, comprising the Third, Fourth, and the Reserve, afterwards the Fifth, Armies, which held the line from above Arras to the Somme. Another Consulting Physician, Colonel Bertram Soltau, who is a physician at Plymouth and had come out in command of the 25th Field Ambulance, was appointed to the Northern Area where the First and Second Armies lay. In 1917 the principle was adopted of appointing a Consulting Physician to each Army. Soltau took the Second, which was the most northerly and lay before Ypres, Colonel W. E. Hume, a Newcastle physician, was appointed to the First, I was given the third, and Colonel J. A. Nixon, a physician at Bristol, was appointed to the Fourth. A little later Colonel C. Miller, of the London Hospital, was made Consulting Physician to the Fifth Army, and later Colonel W. P. Branson succeeded him.

At the base Bradford was at first the only Consulting Physician. He was joined first by Sir Bertrand Dawson, who took the Wimereux Hospitals, while Bradford removed to Etaples. At Rouen, which was the third

large base, Sir James Kingston Fowler became Consulting Physician in 1916, and was succeeded at the end of that year by Colonel W. Pasteur. In 1918 Colonel R. T. Elliott was made Consulting Physician to the Boulogne Base.

At the end of 1917 Bradford and I were promoted Surgeons-General, and in January we were made Majors General. I was at the same time given general supervision over the front. My promotion was gazetted in the following terms: "Surgeon-General Sir Wilmot Herringham to be Major General while acting as Physician-General." It was an amusing mistake, for the rank of Physician-General has not existed in the Army for at least fifty years. These various ranks are interesting, because they are a little puzzling at first sight. There have been such titles as Surgeon-Captain and Surgeon-Colonel in the Army—in fact, a friend of mine has the latter title now—and there are still Surgeons-Captain in the Navy. A Surgeon-General is, on the same principle, a Surgeon with the rank of General. A Major General has quite a different origin. It was first used, according to Fortescue, in the New Model of 1645. In that Army Fairfax was Commander-in-Chief and Captain-Generall, meaning Captain over the whole army, while Skippon, his Chief of Staff, was Major, or properly Sergeant-Major, Generall, as Sergeant-Major over the whole Army. Fairfax issued his orders through the Sergeant-Major Generall, who issued them to the regimental sergeant-majors, who passed them to the non-commissioned officers. The prefix "Sergeant" was dropped, and these officers are now called Majors, while another kind of sergeant-major has been created. That is why Major General should be written without a hyphen, should where he multiplies become Majors

General, and ranks beneath a Lieutenant-General. The latter, although both in French and Italian it looks as if the word General were an adjective (Lieutenant-Général, Tenente-Generale), is really the Lieutenant of a General, while a Major General was originally a superior kind of Major. In Brigadier General the formation is different again. The first word is an adjective (Général de brigade), and the title ought not to be written with a hyphen.

My work was practically the work of a hospital physician at home—to go round the medical cases with the resident medical officer, and to assist him in every way that was possible. I was not, however, formally responsible for the treatment, as I am at St. Bartholomew's. I was also ordered before I came out to report to the Senior Medical Officer, at first the D.M.S. at the Base, soon afterwards the Director General at G.H.Q., on any matter which might be for the good of the health of the Army.

What seemed to me, however, the most important duty of all was to stimulate an interest in medicine among the officers in charge of medical cases, and to prevent the tendency to careless methods which the circumstances of military work and the deficiency of scientific equipment in the Clearing Stations are apt to produce.

Surgery is much more popular than medicine among young men, and it is more consonant with the surroundings of a military hospital. Medicine is a studious pursuit, and to make it interesting a man should be able to command a good deal of scientific apparatus. This was supplied in the laboratories, and it was there that such investigations, which we group under the name of clinical pathology, were to be done. However necessary it may be not to overload the equipment of a mobile

unit, such as a Clearing Station, the absence of such facilities inevitably discourages a medical officer, and tends to make his work less accurate and less vigorous.

In 1918 we obtained the power to appoint officers specially for medical cases. Till then it was a general duty. The appointment of medical specialists greatly improved the medical work, both by the slight recognition which the post gave and by the continuity of work thus secured to the officer; but we could not obtain for them the extra pay of 2s. 6d. a day which had been allowed to the surgical specialists created a year earlier.

It might have been expected that thirty-five years of hospital and private practice would have equipped me with sufficient experience to deal with any conditions I might meet with in war. But Bowlby was never tired of saying that you see in war things that you never see in peace if you live to be a hundred, and he was quite right. Not only were there many conditions, such as wounds of the chest, which are exceedingly rare in peace, and some diseases, such as trench fever, which had never been described before by anyone, but even diseases that I knew well, such as enteric fever and pneumonia, were altered by circumstances, and took on forms which differed greatly from ordinary civil cases. I had learnt, as every hospital physician under a constant fire of criticism from students must learn, to use my stethoscope accurately, and to be exact and careful in observation. That in itself was a help, for medicine is a difficult subject and accuracy is not a common vice. But I soon found myself face to face with things which were entirely new to me, and I can honestly say that I have learnt more medicine in these five years than in any previous five years of my life.

CHAPTER VI

THE R.A.M.C.

IT had been an accepted truth that the wastage in war was more largely due to sickness than to wounds. No army had hitherto been able to escape typhoid and dysentery, and both in the South African War and in that between the United States and Spain their ravages had been dreadful. It was in expectation of a similar state of things that the Royal Army Medical Corps entered upon the Great War. That their expectations were so completely falsified is due to their own skill and their own exertions, and redounds entirely to their credit.

Nothing has changed more in the Army during my lifetime than the position of the Medical Service. When I took my degree the medical officers did not possess substantive rank and did not form a corps of their own. There was no opportunity for a doctor in the Army to keep up his professional knowledge, nor any encouragement for him to do so. None of our best students ever thought of going into the Army, and we teachers always discouraged it, for the Army offered no career to a man who cared about the knowledge or status of his profession.

The first step upward was the grant of substantive rank and the formation of the Royal Army Medical Corps as a separate Department, with officers, N.C.O.'s,

and rank and file of its own, on the pattern of the Sappers and Gunners. This in itself completely altered the position, and our men began to enter the Army Medical Service from that moment. It still, however, laboured under great disadvantages in respect of professional knowledge. A man might be an able and industrious fellow when he was commissioned, but he had no chance of keeping up his knowledge in practice, for Army practice in peace is of the simplest kind, and he naturally did not spend his short and infrequent periods of leave in going round civil hospitals. The weakness of the Corps both in Medicine and Surgery was very fully exposed by the Boer War, and aroused much unfavourable comment. That war, however, which led to many other reforms in the Army, was a godsend to the R.A.M.C. and from it dates the period of real encouragement of professional knowledge. At present an officer has considerable opportunity and even some inducement to improve himself. He is granted study leave, and is encouraged to take up certain special branches, such as Surgery, Diseases of Women, and Diseases of the Eyes. If he obtains sufficient proficiency in them to pass a special examination, he receives extra pay and is in the way to obtain special appointments. The result upon the Corps was most fortunate. It removed the last objection that intelligent and enthusiastic students retained to entering the Army, and in effect since that time the military career has been looked upon as of equal advantage with the civil. The Corps has now some men of excellent attainments in the branches above mentioned.

It is not, however, possible to supply by short periods of study the experience which is gained by wide daily practice. The R.A.M.C. will always be at a disadvan-

tage in that. The population which they attend is selected for its healthy character, and in times of peace lives under exceptionally healthy conditions. It is exempt also from the degenerative changes and diseases produced by old age. Except in the families of officers and in married quarters the medical officer does not see the ordinary practice of civil life. In the military hospitals at Aldershot and a few other places, there is always a certain amount of surgery, and there are in consequence good surgeons among the officers. But when in 1919 the Consulting Physicians were returned to civil life there was not a Regular officer suitable to take the post of Consulting Physician to the Army of the Rhine. This was not due to incapacity, but to lack of opportunity, for had we been considering a tropical country we could have found several Regular officers who would probably have been more experienced in the diseases likely to occur there than any civilian.

And the Corps will always also suffer under another drawback. The highest posts in the Medical Service, as well as in every other department, have duties which are purely administrative. Probably a Director General will not have had anything to do with the personal treatment of patients for fifteen or twenty years. The prizes, therefore, go to administrative rather than professional capacity, and the officer who is not exceptionally keen on the practice of his profession will lay less stress upon professional study than upon a reputation for command. It must be added that command is itself more attractive than practice to the majority of men. I have no doubt whatever from what I have seen with my own eyes that the best Commanding Officer of a hospital is the man who knows and cares about practice as well as administration. I have no doubt

whatever that the long divorce from practical work which attends the higher posts is a source of weakness which requires the assistance of advisers specially skilled in practice. I think that more prizes might be offered for practical skill than are open now. But at the same time I do not see how what we civilians call professional eminence can occupy the position in the Army which it occupies in civil life, and it seems to me that while both practical and administrative skill are necessary, the administrative function is rightly in the superior position, and must always remain so!

Another improvement beside that of practice followed the South African War. In an army the prevention of infectious diseases is, if possible, even more important than in civil life, and it can only be secured by a knowledge of their pathology and of the sanitary measures necessary to keep the infective organisms at bay. This was provided by a School of Pathology and Hygiene, equipped with excellent laboratories and lecture-rooms, which was built at Milbank. To this school all young officers are sent. The knowledge of these branches of our science possessed by a Regular officer is greater than that of the ordinary civil practitioner, for he goes through a nine months' course in them after he has completed his other studies and taken his degree or qualification. It is necessary that it should be greater, for the Regular is not only the clinical physician to his men, but is also their Medical Officer of Health, and has therefore a wider practice in that direction than the civilian.

But the War Office did not confine their attention to their medical officers alone. They adopted also the excellent plan of instructing even their combatant officers in hygiene. The Boer War had brought home

to everyone the extreme importance of keeping the troops free from disease, and the combatant officers took to the instruction with readiness. They were obliged by the War Office to listen to the advice of their Medical Officer on every matter that concerned the health of the troops; and the discovery of inoculation against typhoid, and the preventive measures adopted against both this and malaria, proved of such value that the importance of medical knowledge was made evident, and the attention paid to the Medical Officer rose in proportion.

By these changes, which took place under Lord Haldane as Secretary of State for War and Sir Alfred Keogh as Director General, we led the way in the reform of Army Medical Service. I had the opportunity about 1911 of talking to a former medical officer of the United States Army on this subject. He offered a large prize to the International Medical Congress of 1913, of which I was General Secretary, for the best essay on the position of the Army Medical Officer. This was entirely from a wish to obtain due recognition of the Medical Officer's opinion on hygienic questions from the combatant branch. He had been with the Japanese Army, and had been much impressed by their sanitary measures and by the success which attended them. He was much astonished when I explained to him the state of the case in the English Army, and I gathered that at that time the position of the American Medical Service left a great deal to be desired. No doubt many changes have taken place since then, for I have heard no complaints of this kind during the war. I also described our system to a French medical officer of high rank, who said that he wished anything of the kind obtained in the French Army, but that, though he had long tried to secure

similar reforms, he had never been able to succeed. I do not know the position in the German Army.

At the outbreak of the war, therefore, not only the Medical Corps, but the Army generally, was better trained in sanitary knowledge than any English Army has ever been.

At the same time the Corps contained a certain number of excellent surgeons and pathologists, but the immense proportions of the struggle prevented the use of them for either surgery or pathology. There were about 1,000 officers available when the war began. They were employed in Staff posts and posts of command, and the cadres of units were filled up by civilians specially enrolled. At the front hardly any of the Field Ambulances or Clearing Stations had more than two Regular officers, and latterly they usually had only the C.O. Of the bacteriological and hygienic laboratories at the front only one was ever in the hands of Regulars, and they, too, had soon to be drafted to other duties.

Even in the first year Territorial Field Ambulances and Clearing Stations appeared, of which the officers and men were all either Territorials or civilians enlisted for the war. Their number increased as the Territorial divisions and the New Army came out. The medical units of the latter were sometimes commanded by a Regular, and sometimes not. By the summer of 1916, out of thirty Clearing Stations along the southern part of the front, six were commanded by officers who were not Regulars. It resulted that the treatment of the soldiers, whether in the regiment, in the Field Ambulances, or in the Clearing Stations, was carried out entirely by the enrolled civilians. The Commanding Officer had to devote his time to administration, and though he sometimes knew a great deal about the cases

in hospital, I do not remember more than one or two instances in which he was able in slack times to take a ward himself.

It had always been recognized at the War Office that the R.A.M.C. would not be able to provide all the Medical Officers required for a European war, and that the deficiency would have to be supplied from civilians. But the extent of this special enrolment had been as little suspected as the other proportions of the war.

It would be too much to expect that a Department suddenly called upon to expand to five or six times its number, and subsequently to a much greater degree still, should not make some mistakes in the process. One body of men, the Special Reserve of Medical Officers, complained a good deal. A few years previously the War Office had appealed to civilians to enrol themselves in this Reserve. The men who did so went through a period of training of several weeks, which was to be repeated at intervals, and agreed to serve wherever they were wanted. The numbers in the Reserve were nothing like enough for the requirements, and the War Office enrolled hundreds of civilians on the outbreak of war. The pay given to the civilians was considerably higher than that given to the Special Reservists, though the latter had given their time to train themselves for the purpose. It created a sense of injustice, which will prevent men from joining the Special Reserve if it continues to exist.

Another injustice was of a similar character. There were many public-spirited medical men who had in peace-time taken commissions in the Territorial Force. Such men were called up for the war with the rank which they then held; their colleagues, in many cases

their juniors, on whom the War Office had no claim, were induced to join by offering them a higher rank, but the former class were not promoted. Thus a physician to a large hospital remained a Captain, while the other physicians, and even some of the assistant physicians of the same hospital, joined with the rank of Major; nor, in spite of representation, could the former obtain any promotion.

A third difficulty was the sacrifice exacted if a man specially skilled in either medicine or surgery volunteered for this work in the Clearing Stations instead of remaining with the unit with which he came out. Thus, a surgeon of a general hospital came out with a Field Ambulance where he was second in command. Surgeons were wanted, and he offered to transfer. He remained a Captain, raised later to Major, with an extra half-crown a day, and the officer next below him obtained command of the Field Ambulance on the illness of the original Commanding Officer and was made a Lieutenant-Colonel.

Another mistake arose from the general maxim of the R.A.M.C. that there is no room for special skill in a campaign, and that every Medical Officer must be considered competent for every kind of duty. In consequence hospitals were sent out whose personnel were of the regulation strength, but frequently contained no surgeon of any experience whatever. Such a state of things was so evidently wrong that the Staff in France at once set about correcting it with the help of the Consulting Surgeons. Men of long surgical experience were found in situations where their talents were of no avail, and were transferred to where they would be really useful. This was a case where the Consultants were of great service, for they knew from the positions

of the officers in civil life what their special experience, whether medical or surgical, had been, which the Regular Staff did not.

The influx of so large a number of young men wholly unacquainted with the conditions of war was not without its drawbacks. They had been accustomed to the regular and orderly habits of the hospitals at home, to good accommodation, abundant equipment, and skilled nursing. They found themselves in tents or in half-ruined and dirty buildings, with at first very limited apparatus, and orderlies instead of nurses to help them. The circumstances of the retreat, as must always be the case when an army is retiring rapidly, were such as to prevent satisfactory treatment. They became thereby accustomed to rough and ready methods, and content to look upon them as a regular feature of military practice.

The system of evacuation was another factor which tended in the same direction. It is easy for one who thinks only of the patient in the bed before him to write both intemperately and foolishly about evacuation. I hope I shall not do that. Evacuation is a regrettable necessity, but it is without the slightest doubt an urgent necessity in every army. Administrative Medical Officers must always be prepared to receive the sick and wounded and they must clear their front hospitals in order to receive them. But to the man who is content with routine and allows himself to follow the easy path of system without considering the claims of the individual, which are always opposed to it, evacuation was at the beginning of the war an obsession which tended strongly against good treatment. Even quite late in the war I was able to contrast two hospitals that lay side by side and shared the work alike. The C.O. of the one was so afraid of filling up his beds that he threatened to send

down even dangerous cases without allowing operation; his neighbour would not let a single serious case go down without it. It was the difference between a man who saw only one side of his duty and a man who saw both.

We see the same thing in civil life in a matter which touches us all nearly. In schools discipline is, of course, necessary, and the regular routine medical attendance is as a rule sufficient. But I have known gross cases of neglect, and I can sympathize with the feelings of a mother who is anxious about her child, and wishes for some measures of precaution or of nursing to be adopted which are out of the usual run. We fathers are apt to side with the schoolmaster who considers the mother a nuisance. But I am quite convinced that the best schoolmaster is he who will make his routine system yield to the individual claim, and will take unusual measures to satisfy the mother's anxiety and the child's possible needs.

In the military case it is easy to see how bad an effect even the necessary routine of evacuation must have upon young medical men newly introduced to military work. To examine their cases thoroughly and to treat them carefully was labour thrown away if the patients might in a few hours be entrained to the base. At first the front hospitals could not be induced to operate. It was against tradition. The base was the proper place. It was only very gradually that they yielded to the insistence of the Consulting Surgeon. In medical cases there was an equal temptation and an equal difficulty.

The system had the further grave disadvantage that it deprived the officers at the front of the guidance which we doctors gain from watching the progress of our cases. An operation was performed and before the surgeon could tell the result the patient was sent down.

A difficult medical case came in and was evacuated before the diagnosis could be made. It was most discouraging, and it was made worse by the complete want of communication between the front and the base. Attempts were made to open up a system of mutual information, but it was so unsuccessful at first that it practically fell through. The official mind had not considered the problem. I once said to the D.M.S. of an Army that I thought the want of communication was the chief weakness of the system. He said that he saw no necessity for it, that cases once sent down were out of the charge of the officer at the front, and there was no reason why he should concern himself any further.

It was therefore a matter of some difficulty to get officers to take the interest in their medical cases that they would have taken in civil life, or to write careful notes about them for the use of men who, as they thought, were very ungrateful in not returning information. Some worked well from the first, but in others the interest had to be aroused.

Improvements took place in both these directions. The authorities gradually realized that good practice could be carried out at the Clearing Stations, recognized its importance for the wounded soldier, and took a real pride in it. Moreover, we Consultants, by frequent visits to the base and to our colleagues there, were able to tell the men at the front a good deal of what they wished to know, and under the direction of Colonel T. R. Elliott and the Medical Research Committee great advances were made in note-taking and in inter-communication.

I have always thought it greatly to the credit of the R.A.M.C. that they assimilated us civilians

so readily. I did not hear any complaints from the temporary officers of want of cordiality, and I certainly met with nothing but civility and kindness myself. I think that they thought at first that Consultants like myself were merely "eyewash," but it seemed to me that we gradually proved our usefulness. We knew better than the Regulars the relative value and capacities of the civilians, and were useful in recommending men for special posts. We played the chief part in raising the standard of practice to the unusually high level which it certainly reached. Thirdly, we were useful in such investigations as the novel character of many of the medical and surgical diseases demanded. And, fourthly, it lessened the responsibility of the Regulars, and was some satisfaction to relatives at home, that we were available for consultation in difficult cases.

The flooding of the R.A.M.C. by the civil doctors has had an effect much more important than the personal. It has consolidated the profession by fusing the two branches and giving them interests in common. It has given civilians a knowledge of military work and conditions, and the Regulars an acquaintance with the methods of civil practice, which will be a gain to both.

CHAPTER VII

THE FIELD AMBULANCES

To explain the working of the R.A.M.C. it is necessary to say a few words about the organization of our Army. In France the British Force was divided into five Armies each of which was divided into Corps, and each Corps into Divisions. Each Army has an Army Commander, under whom are the Corps Commanders, and under them are the General Officers Commanding Divisions. A Corps may have one or several Divisions, an Army may have one or several Corps, according to the operations going on at the time. The Division is the fundamental unit. As a Cavalry Division is formed on the same system as an Infantry Division, though only about half its strength, the latter may be taken as the pattern. It consists of twelve infantry battalions each about 1,000 strong, artillery units, engineer units, the Divisional Train of Army Service Corps, and the Field Ambulances. There are about 200 mounted infantry allotted to it for scouting purposes. Each Division therefore contains all branches of the Service, and is able to act as an independent unit.

Each battalion and a few other units in the Division have Medical Officers of their own. These Regimental Medical Officers and the Field Ambulances are under the Chief Medical Officer of the Division, whose title is Assistant Director of Medical Services (A.D.M.S.). He "reports to"—that is, is under the orders of—the

Corps Medical Officer, who is a Deputy Director (D.D.M.S.), and he is under the Army Medical Officer who is a Director (D.M.S.). The D.M.S. reports to the Director General.

The Regimental Medical Officer sees the daily sick, treats such as are slightly ill, and sends the rest to the Field Ambulance. The whole sanitary arrangements are under his care, and when he wants any measures taken he reports to the battalion commander, who gives the necessary orders. The battalion provides stretcher-bearers, who are placed under his orders. When the battalion is in the line he sees all the casualties that occur, from shell fire, sniping, gas attacks, or other causes.

When a fight takes place those who are wounded in the trenches are brought by the regimental stretcher-bearers to the dug-out or other sheltered place which the Medical Officer has selected for his Aid-post. Those who are wounded in the open apply the field dressing, which each soldier carries stitched inside his tunic, to their wounds if they can, and either lie where they are or crawl back into the trenches. As soon as the fire slackens a little the regimental stretcher-bearers, often with the Medical Officer, go out and pick up all they can reach. It is a very dangerous duty, and probably no braver work is done in the Army. Most of it is perforce done at night, and in some cases it is impossible even by night to reach all the wounded. I saw many who had lain out several days. One man with a broken leg was not found for a week, another with a broken thigh had dragged himself backwards with his hands till he got within reach of our lines, and a third, shot through the chest in front of Arras, had been in the German lines for eleven days, where he found a German who came from his own town, Hartlepool, and was civil

and kind to him. After Loos I saw a young officer, also shot through the chest, who had lain out four days, with nothing to eat but his iron ration, and nothing to drink but the rain which he caught in his cap. The remarkable thing was that, though he did not look a strong man, he was not a penny the worse for his exposure, was quite cheerful, and recovered well. In the battles on the Marne in 1918 it was extremely difficult to find the wounded in the standing corn, and in the northern battlefields every shell-hole could hide a wounded man. Whenever there is a large number of casualties the regimental stretcher-bearers have to be reinforced by men from regiments in reserve and from the Field Ambulances.

The Field Ambulance has already selected one or more places comparatively sheltered, as, for instance, the cellar of a ruined house or a dug-out, for an Advanced Dressing Station, to which it sends its "bearer division" and one or two officers. Its "tent division" forms a Divisional Collecting Station farther back, to which such wounded as can walk are directed, and also a Main Dressing Station for the severely wounded. But these arrangements are modified according to the circumstances. Sometimes a party is pushed forward into the trenches, sometimes the Divisional Collecting Station is merged in the Main Dressing Station, and sometimes several Field Ambulances coalesce to form a Corps Main Dressing Station.

The bearer division bring the wounded down from the Regimental Aid-post to the Advanced Dressing Station. This usually has to be done by hand-carriage at night down a zigzag communication trench, which may be a mile long or more, is very narrow, and nearly always deep in mud. If the stretcher is full length it cannot

turn the corners, and has to be lifted shoulder high to pass them. A wounded man is a great weight, and this adds enormously to the labour. Sitting stretchers and other devices were invented to obviate it. The bearers work in relays, but even so become very exhausted, and they are always liable to be hit by shell fire. In November, 1916, about Beaumont Hamel it took four men to pull a wounded man out of the mud, and ten men to carry him down. It was equally difficult in the Passchendaele operations. In some places little wooden railways were built and trollies run on them; in others light Decauville railways were laid. But such means could only be employed in favourable situations.

Besides dressing the wounds, all these various stations prepare bovril and tea that the wounded may have hot drinks as soon as they come in. Some little while before the Loos fight I went with a Chaplain to see his Soldiers' Club, which was in a cellar under the ruined brewery at Vermelles. There he sold tea and buns, real penny buns, and provided books and papers and draughts and suchlike. It was the scene of a furious fight, when the French turned the Germans out of it. The fiercest part of it was at the château, a largish red-brick house in the village, and I saw the craters made by the French mines and the remains of the German trenches in the garden. After the French had got in, and had been in some time, they found in a hole in the garden a German sniper with a supply of food and cartridges, who had deliberately stayed behind to meet a certain death.

A few days later, on the second day of the battle, I went to Vermelles again. There were a large number of wounded sitting or lying about, waiting to be carried down. In the houses was a Field Ambulance, or rather a section acting as an Advanced Dressing Station, in

which I found one of our St. Bartholomew's men, gaily working in his shirt-sleeves, dressing the wounded. In the corner of the street was a soup-kitchen, a movable machine, given by the ladies of the Pytchley Hunt, which was invaluable for hot drinks. It had turned out 6,000 cups the night before. It was managed by the padre. All of them had been at work all night, and expected the same the night after.

From the Advanced Dressing Station the ambulance cars belonging to the Field Ambulances carry the wounded down to the Main Dressing Station, which will be perhaps two miles away. This is in buildings where buildings are to be had, but below Arras the front area was so ruined that there were often no buildings fit for use, or they were too much exposed to shell fire. To meet such conditions a Main Dressing Station was sometimes excavated. One such was near Buzincourt, a village three miles west of Albert. It consisted of three or four small chambers, including a dressing-room, a dispensary, and, if I remember aright, two "wards" fitted with racks on which stretchers could be laid, each ward holding six. They were dug out of a sandy hill by the roadside, and were protected overhead against shells by six feet of earth, sand-bags, iron rails, and cement in layers, with an air-space in the middle. Others were in old cellars or even in quarries. I laughed as I thought of the Main Dressing Stations we used to pitch during our training, with their two hundred yards frontage one way and a hundred and twenty the other, at an exact right angle, which we measured off somehow with a bicycle, and with their tents dressed to the inch. However, in the words of our Training Book, "These plans are drawn up for guidance, but need not always be rigidly adhered to."

In quiet times schools were utilized. A charming old Belgian nun taught her classes under a shed in a schoolyard, while our sick soldiers lay in her classrooms. We watched a lesson in arithmetic. "Five times four make——?" Ten or twelve hands went up, and the child chosen by the nun's finger went solemnly through "four times" till he came to twenty. It was a curious accompaniment to the work of the Field Ambulance. The old nun could talk better English than I Flemish. She had learnt it from the men.

At the Main Dressing Station the patients are examined again, and if necessary the dressings are changed and the splints readjusted. Here, too, if there is dangerous hæmorrhage, an artery often has to be tied or a hopelessly smashed limb has to be removed, to the great relief of the wounded man. It is only, however, operations of urgency that are performed here. Certain cases—for instance, wounds of the abdomen—do not get out at the Main Dressing Station, but pass right on to the Clearing Station, because in these cases it is essential to success that the operation should be performed at the earliest possible moment. Ambulance cars then come up from the rear and take the wounded down to the Clearing Station, which is usually four or five miles farther back, out of the range of the enemy's field guns.

The organization for the sick is the same as for the wounded, but in this case the numbers are much more regular and are not subject to a sudden enormous increase or to difficulties of collection. They go down to the Field Ambulances, and are either kept there, or if more severe are sent on to the Clearing Station.

One of the Field Ambulances in a Division was usually told off to form a Rest Station, which was a convalescent hospital for patients from the Field Ambulances who

were suffering from slight attacks of trench fever, boils, and other minor ailments. They sometimes served a Division, sometimes a Corps. No one could stay in these longer than a fortnight, and if a man was not likely to be fit for duty at the end of that time he was sent on to the Clearing Station. One of these Rest Stations may serve for an example. It occupied some huts originally used by a French hospital in an orchard by the roadside. They were long wooden buildings holding fifty or sixty stretchers and warmed with stoves. There was a bath-house and a laundry, besides a canteen and a dining-hall. The kitchen and meat larder were in a shed at the end of the ground next the road. The ovens were old petrol tins built into brick flues, and there was, as usual, a large stock-pot for the soup, which in the Army is often first-rate. The sullage water from the kitchen was evaporated by the oven and the steam went up the flue, leaving nothing but a little grease. This was saved and sent to the base, where it was bought at a fixed rate for the manufacture of glycerine for making explosives.

The following was the menu for the day:

DIET SHEET—JANUARY 9TH, 1917.

<i>Meal.</i>	<i>Patients.</i>	<i>Personnel.</i>
Breakfast	{ Bread, Jam, Tea. Bacon (boiled), Porridge	Bread, Jam, Tea. Porridge, Rissoles
Dinner	{ Brown Stew, Beans, Potatoes, Rice and Figs	Brown Stew, Beans Potatoes, Currant Pudding
Tea	{ Bread, Butter, Tea, Fish Rissoles	Biscuits, Butter, Tea, Milk Biscuit Pudding
Supper ..	Pea Soup	Soup

The rules for this Rest Station are an example of the spirit in which these places were managed.

RULES FOR DIVISIONAL REST STATION.

1. *Period of Stay.*—Stay of men in Divisional Rest Station, if admitted from Field Ambulances, will be ten days; if admitted direct, fourteen days. This is not to be exceeded except under very exceptional circumstances, and must then be reported to the D.D.M.S.

2. The comfort of the men is to be studied in every way.

(a) Cots or stretchers with stuffed palliasses are required for all men.

(b) As soon as possible after admission a bath and change of clothing will be supplied, unless this has been previously done in the Field Ambulance. The seams of trousers and tunic are to be ironed; while this is being done, a man can remain in his underclothing and great-coat.

(c) Suppers of soup or cocoa with bread or biscuits and cheese or jam to be provided.

(d) Seats and tables for meals and recreation, such as reading, writing, and table games, should be provided.

(e) Week-old papers and magazines can be obtained from messes. The Red Cross can help largely in these matters; also editors of papers and periodicals and friends of officers can be interested in individual institutions.

(f) The possibility of running a small wet and dry canteen should be considered.

3. *Routine of Treatment.*—(a) During the first three days as much rest as possible will be given.

(b) During the second three days the men will be employed on light duty only.

(c) During the second week men should be given physical exercises. Outdoor games such as cricket and football should be organized. At least three route marches should be performed. The first two of these will be in drill order without arms, the last in full marching order. Puttees need not be worn when resting off duty.

4. *Care of Equipment.*—(a) The pack-store must be carefully kept.

(b) Rifles, bayonets, and entrenching implements should be carefully cleaned and oiled.

(c) Kits should be opened out as soon as possible, aired, cleaned, and brushed.

5. *Disposal of Excreta and Refuse.*—(a) Large brick incinerators should be built; and excreta, as well as all rubbish, burnt. Urine to be disposed of in pits.

(b) Captain Brooke Pike's modification of Lieutenant-Colonel Sharpe's latrine is recommended (*vide R.A.M.C. Journal*, March, 1916).

6. *Cooking Arrangements.*—(a) Field ovens should be constructed.

(b) The diet should be varied as much as possible, and supplemented by extras as medical comforts.

(c) Scraps and bones should all be carefully collected for a "stock pot."

7. *Ordnance Store.*—A small ordnance store for the supply of clothing, underclothing, socks and boots, should be organized.

8. Tailors', shoemakers', and barbers' shops might be arranged for.

9. *Officers.*—(a) Many articles, such as beds, bedding, arm-chairs, floor rugs, as extras, can be supplied by the Red Cross.

(b) A mess should be organized with reading and writing rooms.

(c) The rations may be supplemented by making a small charge—viz., 1 franc per day.

Other institutions run by Field Ambulances were bathing establishments and laundries. The first bath I saw was in a brewery. There were two great metal vats and a number of wooden tubs. Fifty men at a time went into the loft and stripped. At the sound of the sergeant's whistle they tumbled down the ladder

and got into the hot baths. A second whistle turned them out of the water at the end of ten minutes. When dry, they each received clean underclothing and retired into the loft to dress. The dirty underclothes were disinfected by compressed steam and sent to the laundry which was in the same building. French women were washing the clothes and in a separate room about twenty of them were mending and darning.

When we began to form special apparatus for destroying lice, these, too, were often worked by Field Ambulances.

So, also, when it became necessary to form centres close up to the front for cases of gas-poisoning, these were run by a Field Ambulance. The patients were admitted, and if poisoned by mustard gas were at once stripped, put into a hot bath, and thoroughly washed to remove all trace of poison from the skin. Their eyes were washed with an alkali, a little soothing oil put in, and a shade fitted. Clean clothes were put on; and the patient was carried off on a stretcher to be sent down to the Clearing Station. In another part of the hut was an oxygen apparatus ready for use, and a table on which to lay any patient who needed it instantly. This was chiefly for phosgene cases, but was occasionally required after mustard gas. Restoratives were administered, and in the phosgene cases strict rest was enforced, owing to the serious symptoms which we found were produced by even slight exertion.

The infected clothing was carried out into the air and exposed in a specially designed rack to the action of steam, or hung on lines in the wind and rain to get rid of the poison.

In the Somme fight, where such a centre was first developed, the gas was phosgene, and a special officer

with several trained orderlies was constantly employed in administering oxygen in an open tent.

Advanced Operating Centres were sometimes formed when, for some reason or other, Clearing Stations could not be brought as near as usual to the line. These also were administered by a Field Ambulance, and surgical specialists were sent up to them to perform the operations.

A Field Ambulance is therefore a maid-of-all-work. This alone is enough to make the work very interesting, since it must turn its hand to anything and adapt itself to any task. But it also leads a very adventurous life. It marches with the Division and shares its fortunes. It sees every fight, and in defeat runs great risk of capture. It packs up and is off in a very few hours, and it marches with its own transport and is self-sufficient.

It may be very self-sufficient indeed. One of my former officers in the O.T.C. came out in command of a Field Ambulance in a London division. I went up to see him in a village near Arras, where he occupied an ordinary house with a small courtyard behind it, out of which opened various little outhouses. Out of a lean-to which he had closed in he had made an excellent operating-theatre; in the outhouses he had two boot-makers, two tailors, one tinsmith, one Aladdin mending lamps, and one joiner, all from his own personnel. One of his corporals was a well-known London organist and composer, who was training an excellent choir. In the orchard behind he had a laundry.

It is also the most flexible of units. It has, besides the C.O. and the Quartermaster, eight Medical Officers and 241 other ranks. It can be divided horizontally into a bearer division and a tent division, or it can be divided vertically into three sections, each with a bearer

and tent subdivision complete in itself. In resting times this often happens, and then one section may be running an officer's hospital in some château, another may be working a bath and laundry, and the third may be keeping a rest camp.

There are not many things that a Field Ambulance does not know, nor many sides of life that it has not seen.

CHAPTER VIII

THE CLEARING STATIONS

THE Clearing Hospital or Casualty Clearing Station was a novelty in the scheme of the Medical Service, and had not hitherto been employed in war. It was, in the words of our Training Book, a unit "specially set apart for the evacuation of the sick and wounded collected by the Ambulances." It was nominally equipped for 200 patients, was normally located at an advanced base, and had no transport of its own. But everything was left fluid. Thus "it may be required to take in many more sick and wounded," "it may have to advance close up to the Divisions," and "specially organized transport may be allotted to it." The authorities saw that a hospital was needed behind the Field Ambulances, but were obliged to wait until experience should settle its exact function. The one thing that they clearly did not intend it to be is what the circumstances of the war forced it to become, an Advanced General Hospital.

Clearing Stations were formed in the proportion of one to each Division, but they were not attached to Divisions, nor did they move with them. They were theoretically Line of Communication units, and a man admitted to one of them was struck off the strength of his Division as no longer belonging to the front. Yet the Clearing Station was always intended to return

men to duty at the front as well as to send others down the line, and if it had been foreseen how essential a part of the front they would prove to be, the inconvenience which arose through their theoretical separation from it would probably have been avoided by some different arrangement.

When possible, the Clearing Stations were placed in buildings, and for their purpose schools or colleges or religious buildings were the best. Sometimes factories were used and sometimes lunatic asylums or institutions for the blind or for the deaf and dumb.

St. Omer was once a great centre for Jesuits, and there stands in the Rue Carnot a Jesuit College, founded by the English in 1592, a monument of the religious struggles of Elizabethan times. This is now partly a French military hospital, partly an armoury. The Lycée attached to it made an excellent hospital for us, and in its large gravel courtyard the tents of the personnel of various Clearing Stations on their way to the front were successively pitched. In another large Jesuit College, that had been empty for several years, No. 10 Stationary was quartered. At Malassise, the monastery, in which between twenty and thirty old monks still remained, served at first as the typhoid hospital for the Belgian population, and later for British hospitals.

The R.A.M.C. are very expert in adapting buildings. St. Joseph's at St. Omer, when No. 10 Stationary took it over, looked hopeless. It was indescribably dirty and dilapidated, and to one accustomed to the spotless cleanliness and comfort of a London hospital it seemed impossible that wounded men should ever recover in such a place. But in a very few days the whole great building had been scrubbed clean, the walls painted or whitewashed, the windows glazed, the doors repaired,

the kitchen started, the latrines cleaned, and an incinerator built. The dormitories were long, wide, and lofty rooms, with abundance of windows on each side. These served for ordinary cases. The smaller rooms, probably class-rooms, were used for infectious cases, and a range of rooms one story high on one side of the quadrangle was left for typhoid or suspected typhoid cases. Another set on the opposite side, which was on the first floor, and was approached by an outer staircase, completely isolated the cases of cerebro-spinal fever. The ground floor was used for the offices, the mess, the men's dining-room, and similar things; the chapel formed another large and lofty ward; an outer building was turned into a first-rate bacteriological laboratory; and, finally, a theatre in which plays had been acted—for acting is quite a feature in school life here—was made into a Badminton court, and provided the exercise that was much needed.

In the summer many of the hospital units were pitched in fields. At Malassise, for example, beside the monastery itself, in which were 200 beds, there was a large field devoted to infectious fevers, and another given up to convalescents. In the former were separate camps for measles, rose measles, scarlet fever, diphtheria, and doubtful or "observation" cases. Each of them, to avoid infection, had its separate latrines. There were about half a dozen ward tents and a sisters' tent in each camp. Railings separated the camps, and cinder-paths connected them. These were edged with white bricks to mark them by night, and flower-beds to enliven them by day. Little flower-boxes made out of margarine cases, filled with flowers, stood on legs at the corners; little red laths with red ropes guided you at the turnings. In the middle of the field were a boxing-

ring and a cricket-pitch, and a football was usually being kicked about somewhere. The picket tent at the entrance was gayest of all. Geraniums, sweet-peas, and foliage plants, and a lavish arrangement of whitewashed bricks, cheered the magpie, who in a roomy packing-case on four tall legs with a front of rabbit netting, guarded the picket that guarded the house that Jack built. One Clearing Station had as its pet a young fox they had found in a trap. I saw him one day taking his walks abroad in the arms of an orderly.

The soldiers' pets were chiefly dogs, but there were many goats and kids among them too, which we used to see perched on the top of the baggage in a General Service waggon. One General who unfortunately lost his leg had a lion cub, and he was less concerned at the loss of his leg than lest the lion should be neglected now that "the only person that he (the lion) cared for" was removed. One Clearing Station was enamoured of a pig, and none the less that their views as to his future were strictly utilitarian. He had the same name as the G.O.C.—it is extraordinary how these coincidences happen—which was Wilfrid, and one day that high official, coming to visit the hospital, heard "Three cheers for Wilfrid" given in a back part of the camp at some evidence of nobility evinced by the pig. The C.O. hurriedly distracted the General's attention, and the Mess lived in hope that the truth was hid from him. But a little later swift fate in the shape of a stray shell overtook poor Wilfrid and in the midst of its mourning the Clearing Station received from Headquarters a telephone message conveying the G.O.C.'s "Condolences on the death of Wilfrid."

However, I was and ought to be discussing the housing problem.

At Bethune a large boarding-school was used. The teachers were anxious to retain some of it, so that they might keep the school going. But one morning the Germans put fifteen shells into the courtyard. The padre belonging to the hospital had a narrow escape. Two hundred patients were cleared out in twenty-five minutes, and the Clearing Station moved to safer quarters. Two of our Ambulance orderlies who were waiting in the street outside were killed.

On a hill called the Mont des Cats, east of Cassel, there is a Trappist monastery. Owing, I was told, to the political influence of the Abbot, whose people were large brewers, this monastery had not been suppressed. But the monks of military age were all serving, some as Aumoniers (Chaplains) and some in the ranks. They used to come back to the monastery when on leave and become monks again. In this monastery a Clearing Station was quartered, but the monks' quarters and their cloister were boarded off and kept private for them. One evening, however, about nine o'clock, a large convoy of Indians arrived, for whom the accommodation in the wards was not sufficient. Accordingly, as a measure of emergency, the partition was taken down, and about thirty of them were laid in the cloisters. At two o'clock in the morning the monks, clothed in white with white hoods shrouding their faces, carrying candles and singing or chanting, entered the cloisters to go to chapel. When they saw the Indians they uttered loud cries which were not part of their service, and when the Indians saw them the Indians did the like. For a short while there was a confusion which was properly appreciated by the R.A.M.C. officer alone. The composure of the other two parties was too much ruffled to admit of an unprejudiced view.

In a certain Territorial Clearing Station the C.O. had invested largely in flowers, and his paths were of red brick-dust edged with chalk-stones. He humbly hoped that it would be counted to him for righteousness, for there is such a thing as "eyewash," but all that his General said as he stalked proudly along was, "Well, you have plenty of room for more plants."

Perhaps a little detail as to the arrangement and life of a Clearing Station may be of interest.

Three or four times I went to live at one of them to give them a hand in times of stress. In July and August, 1916, I was living with No. 36 at Heilly, in the Ancre Valley below Albert. It was entirely composed of tents, which were pitched on an oatfield in a great square bounded on two sides by roads and on a third by the railway. The Ambulance cars entered at the north-west angle by the station and drove up a wide L-shaped road to a large dressing-tent. Later on we used to build a special reception tent or hut. Here the stretcher cases were received and examined, and the task of allotting them according to their several needs required a great deal of judgment. Those that required immediate operation were sent at once either to the pre-operation ward, or if they were collapsed, to the resuscitation ward, where by various means, chiefly by rest and sleep, by hot drinks internally, and heat externally, they were restored sufficiently to support an operation.

Heat was at first given by hot-water bottles. But later special stands were made covered over the top and sides with a blanket. Inside this shelter a lamp was burning, and on the top the patient's stretcher was laid and warmed blankets were put over him. Sometimes the Clearing Station kept a hot chamber going in which blankets and clothing were heated and stored

ready. Transfusion of blood or of gum was carried out either in the resuscitation ward or in the operating-theatre.

The remainder of the bad wounds were treated in the dressing-tent. They were thoroughly examined, cleaned and dressed.

The less severe cases were treated in a different tent. I worked there for two or three days in partnership with the Wesleyan Padre, and it rather amused the Commander-in-Chief to find a Consulting Physician and a clergyman in their shirt-sleeves putting on bandages.

After that time I took charge of the chest wounds, which were collected in a large shelter holding seventy-two beds, and formed, like the dressing-tent and the operation wards, of several marquees united by canvas covered with tarpaulin.

In the theatre three surgical tables, each with a surgeon, an anæsthetist, a sister, and an orderly, were at work night and day.

Besides these wards, there were wards for septic cases, evacuation wards for cases fit to travel, kitchens, dining-tents, an orderly tent, tents for the officers and for the rest of the personnel, ablution tents, wash-houses, disinfectors, store tents, and two large incinerators. A mortuary tent was in one corner, a dentist's department in another, and later a church hut, where services, concerts, and even plays when things grew quieter, were given.

I used to spend the evenings when I was at No. 36 helping the C.O. to sort and check the effects of soldiers and officers who died in the hospital, which were all returned to the office at the base. One of the minor trials of a hospital C.O. are the complaints that he frequently receives from officers or their friends that their

effects have been stolen while they were in hospital. Stealing is a very common vice in the Army—for war does not bring out the good qualities alone—and it is not uncommon in hospitals. Patients certainly steal from one another, and perhaps orderlies steal too. But I have known charges made which were shown to be without foundation, though most definite and detailed. One officer claimed a pair of field-glasses, for which his receipt, given when he left the hospital, was in the C.O.'s possession. Another made a similar claim, which was forwarded from the Clearing Station to the Field Ambulance, and then to the regiment. From the latter came the statement that it was well known that the officer did not possess a pair of field-glasses. The friends of an officer who died of wounds received and acknowledged his watch, but asked for two more, as they said he had three. How easily mistakes may be made is shown by two instances. An officer who had just been admitted was watching the checking of his kit, and when it came to the glasses, said, "There is another pair in my kitbag." They looked in the kit-bag immediately, and found that the glasses were not there. A soldier about to go on board the train found he had left his watch under his pillow. He came back to one of the hospitals in the town, and swore to the ward and the bed in which he had slept. No watch was there. But on taking him to the other hospital the watch was found. The notable point was that the wards were not in the least alike either in shape or size.

The establishment of a Clearing Station was designed for 200 patients, and consists of the C.O., the Quartermaster, and 6 Medical Officers, with 78 other ranks. It still stands at those figures though the number of patients was enormously increased in periods of fighting.

In quiet times the numbers fell to 300 or 400, and the ordinary staff could cope with them. But when we began to have large fights the numbers of wounded exceeded all anticipation. Such a Clearing Station might even receive as many as 2,000 cases a day and 1,000 is not uncommon.

Accordingly two measures of relief were adopted: the staff was reinforced, and the stations were grouped together. The former was first carried out at the Loos fight, but the fresh staff did not arrive till the Tuesday, and the original staff had been working for three nights and two days without going to bed.

At the Somme for the first time before a battle the Consulting Surgeons were brought into counsel and informed of the position. And in this battle for the first time a regular system of reinforcement of the staff was arranged. It was drawn from two sources: first, officers were detached from the Field Ambulances of Divisions which were not actively engaged, and sent to help at the Clearing Stations. This plan had two disadvantages. Such officers had not worked in a Clearing Station, and were strange to the methods and the place; and, further, as each Division went up, its Field Ambulances went up also, and withdrew their officers. There was, therefore, about once a fortnight a fresh set of officers, who each needed a few days before they became of much use. The second source of supply was from Clearing Stations in the quieter areas to the north. The surgeons who usually operated in these Clearing Stations were drafted down to the Somme and added for the time to the staff working there. Thus, at No. 36 Clearing Station we had a total of fifteen or sixteen Medical Officers instead of the usual six.

The sisters were increased to about the same number.

In later battles this system was still more developed. The surgeons did not migrate singly, but each brought with him his "team," which included an anæsthetist, and a theatre sister and theatre orderly. The numbers were increased also, by the addition of surgical teams drawn from the base so that the usual number of operating-tables were six. Yet they were never enough, and more could always have been done if the Army could have supplied the officers to do it.

When in 1918 the whole Force was attacking simultaneously this system of reinforcement perforce failed, and the work of the Clearing Stations suffered accordingly.

The second measure employed was the grouping of two or three Clearing Stations together, so that they could relieve each other at regular intervals. The plan was that each as it completed an admission of about 200 patients "switched off," and the neighbouring Clearing Station began to take in cases. This gave each a better chance of keeping abreast of its work, and prevented either of them from being swamped by a large number of cases requiring operation.

Experience showed that a large proportion of wounds of the head could be sent for operation to the Base without suffering, but wounds of the chest required two days' rest even if all went well, broken thighs required the most careful and thorough cleaning of the wound and splinting, and abdominal wounds, which at first, following the South African practice, we had let alone, not only required operation, but also needed a week or ten days' rest after it to give them a chance.

Every war has its own lessons and requires different methods, not only in fighting, but in the treatment of wounds. All the lessons of the South African War had

to be unlearnt. There we fought at long range over a clean desert in pure air. Here we fought at close quarters over some of the richest and therefore the filthiest land in the world. The wounds were always contaminated with the poisons from manure which produced the horrible condition that we called "gas gangrene." It is a form of sepsis hardly ever seen in civil practice, and although many campaigns have been fought in this area, the condition has not been described by former military surgeons. Various methods were tried to deal with it. Some advocated the use of strong antiseptics, and declared that the prevalence of the disease reflected gravely on the knowledge of antiseptic principles of surgeons at the front. Another school maintained that the proper method was to stimulate the tissues of the body to deal with the poison themselves and that antiseptics rather hindered than helped. Both methods were tried, and both failed signally. Nothing was of much avail until the surgeons, with the help of the pathologists at the front, learned that the poison grew in and lived on dead and bruised muscle tissue, and that if they wished to prevent it they must resolutely cut away every scrap of damaged flesh in the wound and its neighbourhood, and thus restore the wound to the condition of surgical cleanliness which had been the basis of surgery in civil life. It was "asepsis" that won the fight, and neither antiseptics nor physiological self-help. From that moment the success of treatment became very great, and wounds healed with astonishing perfection and rapidity.

The close quarters at which we fought and the enormous velocity of missiles produced wounds of a dreadful character. This shattering effect, which created damage far beyond the immediate neighbourhood of the track

of the missile, not only tore large holes through the body, but also so bruised the fleshy parts that they formed the most perfect material for the growth of the organisms of gas gangrene. Each side thought for a time that its enemy was using explosive bullets. Our men, who thought the Germans dirty fighters throughout, were always on the look-out for German tricks to increase the severity of wounds. A patient at Poperinghe showed me a clip of cartridges taken from a German sniper in which the bullets had been taken out and reversed so that they would enter the body with their blunt end foremost, and an officer showed me a revolver bullet with which a German officer had shot him which had a large nick cut in it to make it rougher. Such things meet with short shrift on the battlefield, and they are quite unnecessary. Nothing can make wounds much worse than the modern bullet wounds are.

At first the Clearing Stations were much averse to operating. It took all the Consulting Surgeon's tact and perseverance to overcome their reluctance. It was not the tradition, and it would stop evacuation. Moreover, they had not the equipment for it, and they had not the surgeons, for no selection had taken place at home. Those difficulties were all overcome, and in France the Clearing Stations came to be recognized as great centres of surgery. But authorities at home never grasped the position. As late as 1917 a standard plan for the operating-theatre of a Clearing Station was sent out by the War Office which allowed for *one* operating-table. The usual number in use at that time was six, and as, of course, the War Office plan was the authority by which the R.E. who build the theatres had to work, it took a great deal of time and trouble to get the mistake corrected.

An interesting question always arises on the duty of a Field Ambulance or of a Clearing Station when it is in danger of capture. On the one hand, not only is its equipment very valuable but its personnel is more valuable still. The tents, the surgical instruments, and the stores, take a long time, as we found by experience, to replace, and until they can be replaced the unit is not available for work as a unit. But even these were not so difficult to supply as the officers and men. An officer must be a qualified medical man, and towards the end of the war such men were literally not to be obtained. Even the rank and file require a certain amount of training, and can only be replaced with difficulty. It is therefore a great loss to the Army when such a unit is captured and on that ground it is their duty to run away. On the other hand, the patients, if they have any, cannot be left without attendance, and some one must remain to look after them. The Geneva Convention of 1906 lays down that medical personnel must, as far as military exigencies permit, be left in charge of sick and wounded, and when captured by the enemy are to continue their duty under his direction. The words "as far as military exigencies permit" leave it to the discretion of the Chief of the Medical Service, and, if he lays down no general rule, to the discretion of the Commanding Officer of the Ambulance or Clearing Station, who is naturally placed in a very difficult position. Is he to run away, or is he to stay with his patients? Such a case occurred in the German attack on the Aisne sector in May, 1918. A Clearing Station which was with our Division on the right of the French found itself in danger of capture from the rapid advance of the enemy. It had just admitted over 300 wounded, including many officers, who had not

been operated upon and would certainly die if left without proper attendance. The C.O. decided to stay himself and to keep with him three officers and most of the personnel. Between them they operated on every case, and probably saved many lives, for though the Germans had been in the habit of sending the captured personnel away, which made the C.O.'s decision still more difficult at the time, yet in this case, probably through shortage of their own Medical Service, they left the three officers and the other ranks with their wounded for three weeks, so that they were able to see most of them through the worst of their illness. The C.O. was himself very badly treated, for he was sent away from his unit and put in a civil prison along with common malefactors. But the wounded certainly profited greatly by his decision. He was sent back in about six months, and it was then that I heard all about his doubts and difficulties. There were several cases at the time of the German advance in March, 1918, in which Clearing Stations had to run for it, but in every case the patients were evacuated, though a good deal of equipment was left behind. In one or two instances the surgical instruments were saved by the surgeons themselves, who put them on a wheeled stretcher and pushed them twenty or thirty miles down the road.

CHAPTER IX

TRANSPORT—BASE HOSPITALS—NURSES

THE transport of wounded from the Advanced Dressing Station to the Clearing Station was carried out by two relays of Ambulance cars. The first set plied between the Advanced and the Main Dressing Station, and belonged to the Field Ambulances, having replaced the horse Ambulance waggons which were the authorized equipment when the war began. The R.A.M.C. had for several years before the war repeatedly urged upon the authorities that motor Ambulance cars should be provided, but the request had always been refused on the ground of expense. However, practically from the moment the war began it became obvious that horse transport would not suffice,* and motor Ambulance cars were accordingly at once put in hand.

The cars that belonged to Field Ambulances, seven to each, were, like them, under the orders of the A.D.M.S. of the Division. The next relay was formed by separate convoys in fleets of fifty, with one or two R.A.M.C. officers and one or two A.S.C. officers to each fleet. The Medical Officers were needed to attend the wounded men during the journeys, and the A.S.C. officers did the repairs in the convoy workshop. These convoys were under the orders of the D.M.S. of the Army, and plied between the Main Dressing Station

* We had, for instance, 23,000 admissions on the first day of the Somme battle of 1916.

and the Clearing Station, and when needed also between the Clearing Station and the Ambulance train.

On paper this task of transporting wounded sounds simple. It is, however, a matter requiring the closest attention and causing grave anxiety. In the first place the course of the traffic has to be regulated so that it shall not interfere with supplies, and shall not block itself. Where the roads were narrow, as in most of the northern area, special roads were allotted to the transport of wounded, the rest being kept for the Supply Services, and the medical traffic had to be regulated in a definite direction—the up journey taking one line, the down journey another. That in itself was difficult enough.

In addition, the D.M.S. was always concerned about the number of cars available. In the last year the shortage was very great, and it was at this time that the need was greatest too, for in the advance the distance between the fighting-line and the Clearing Stations grew longer and longer, and since the cars took longer and longer time to do the journey, they were in consequence required in greater and greater numbers.

The question that naturally occurs to an ignorant person is, Why not save all this trouble by putting the Clearing Stations farther forward? That is always a difficulty. If you carry your Clearing Stations forward in front of railhead, two consequences follow: You immensely increase the road traffic, because all the supplies for the Clearing Stations will have to go by road, and you therefore require more motor lorries, and delay the rate at which they can travel. Secondly, since you then have to evacuate your patients by road to railhead, you have to detail a large number of motor-cars from your already insufficient supply for that duty.

My D.M.S. told me that the three or four hundred yards between the Clearing Stations at Frévent and the railhead meant that he had to detail over thirty Ambulance cars to evacuate them. So far as the wounded go, the choice is a choice of evils, for on the one hand, if the journey down to the Clearing Station is, as during the advance it was, twenty or thirty miles, the patients necessarily suffer from the delay before operation; if, on the other hand, you have your Clearing Station up in front of railhead, they have a long, painful, and injurious road journey soon after their operations. That is equally true even if you throw forward an Advanced Operating Centre in front of the Clearing Station. I mention such questions in order to give those who have not seen the machine at work some idea of the difficulties which have to be surmounted in all Army medical service. The key to the whole situation is the construction of railways.

The time occupied in getting men down to the Clearing Station varied according to the difficulty of collection. Once in the Advanced Dressing Station it did not, until the advance began, take more than two or three hours to get them down. In quiet times a man hit by shell in the trenches might often be brought to the Clearing Station within four hours of his wound. The delay occurred, as I have already said, in front of the Advanced Dressing Station, from the difficulty of finding the wounded and the difficulty of bringing them in. The Ambulance cars drove at an average pace of about six miles an hour, and they were usually driven with great attention to the comfort of the wounded. But where the roads were very rough the jolting caused great suffering, and the cars often had to stop for a little while to give the patients a few moments of rest.

From the Clearing Stations the patients went down to the Base by rail. At first we used French rolling stock, and the first eleven Ambulance trains were made of French carriages and fourgons. In the latter iron stands were fixed which held three stretchers apiece. There was, however, no means of communication along the train, and the accommodation was very uncomfortable. After that we built Ambulance trains of our own on the corridor system. I went over two of them—No. 17, the Millers' train, and No. 24, the Lancashire and Yorkshire. The arrangements in these were very good. There were ten ward coaches, some of which were third-class coaches gutted and fitted with racks for stretchers on either side of a central passage. Some coaches held five racks and some six, and each rack held three stretchers. There was a wide central doorway, and at the end two little cabins, one a scullery, the other a lavatory and sink. Other coaches were for sitting cases. In these the fittings were retained. There were two kitchen coaches, each with a regular close range, for they had to cook for over five hundred people, and the journeys often lasted thirty hours. There was a coach for the officers and sisters, who lived on the train for several months at a time and had a compartment each, with a little open space for a dining-table. There was another coach for the orderlies, another for the dispensary and stores, and at each end a large guard's van. Three officers and three sisters were the complement. A good deal of dressing had to be done on the journey. It was a trying life unless you could sleep at any time and under any circumstances. But it was as comfortable for the wounded as a train could be made. Those two trains cost about £20,000 apiece.

The Base hospitals were out of my sphere, but I saw

one of them from the inside as a patient, for I was laid on my back for a month in August, 1917, with a bout of sciatica, brought on by long driving hours on rough roads. Some of my hospitals and places I had to see were 70 miles away from my lodgings, and I reckoned that I averaged, as a rule, from 80 to 100 miles a day. The first thing that impressed itself on me in the hospital was the hardness of the mattress and pillow. I had been made tender by comfortable quarters, and at the end of three days my neck and shoulders felt as if they were bruised all over. I had to lie almost flat for a fortnight, and could hardly turn in bed, so I got the full benefit of it. However, that little discomfort soon passed off. I was very much spoilt, partly because I was sixty-two years of age and a Colonel, and partly because I was a doctor. The sister of my ward had been in a Clearing Station in my area, so that she knew me as Consulting Physician, and also she came from Guy's, where I had several friends under whom she had worked. She and her nurse had a very dull time of it with our ward, for it was attached to an electrical institute and was set apart for such cases as lumbago and sciatica. The alleviation of a nurse's life is the serious case. When there is a great deal to do and the details of nursing are very important for the patient's welfare, nurses never mind the work, however hard and disgusting. But it is depressing to have to take a dozen temperatures, every one of them normal, twice a day, and to have nothing else to do but housemaid's and parlourmaid's work. They were, however, very good to us, and there were little gleams of sunshine now and again, as when an apple-pie bed was happily successful and a pillow-fight followed. But these things were concealed from the sister.

The electric installation was very complete, and included radiant heat both by baths and by movable lamps, static electricity, Hirsch apparatus, diathermy and vibratory instruments. The ladies who worked in it were V.A.D.'s or some equivalent variety of angel and were just as charming to the soldiers, for I used to watch them, as to us officers.

I am old-fashioned, and though I have always been a strong advocate for opening all careers to women, I still hate to hear girls calling one another by their surnames. The Fannies with whom one of my cousins was serving were very contemptuous of my prejudices. I own it was a pleasure to me to find all these V.A.D.'s using nicknames to one another, however far-fetched.

Also, I dislike ugly dresses. Whoever designed the hats and great-coats that our poor nurses were condemned to wear deserves ill of her country. It went to my heart that they should have to go about among the French, who really take care how they dress, in such painfully ugly costumes. The French nurse's dress is extremely pretty and ours must have brought English taste into contempt. I also wish that English girls, even if they do happen to be Fannies and to be both efficient and brave, would not wear their skirts quite so short. The English leg is, I am sorry to say, highly inelegant, whereas the French are very neat, and when you get a really good view of the whole leg up to just below the knee the contrast is distressing.

It is not the first time that I have been ill and laid on my back. The memory of pain slips away—for man, luckily for him, is a forgetting animal—but what does not depart is the memory of the boredom of inactivity. I always have some pocket volumes of Scott with me when I travel, for I am one of the few who read him

repeatedly, and there were any number of exceedingly bad novels on the shelves. But there is really nothing of such interest as your next meal until it arrives, when you find that you do not care to eat it.

The Base hospitals had not such exciting work as we at the front, but they made up for that in having greater opportunities for studying their cases. They did admirable work on chest wounds, on nephritis, on enteric, dysentery, abnormal action of the heart, and many other subjects. Especially good, though I speak with diffidence on a surgical subject, was their treatment of broken thighs. It was in the later years a marvellous combination of skill and care.

The sisters we had up at the front were almost to the last all trained nurses. I think that at the end a few V.A.D.'s went up, but for the most part V.A.D.'s were working only at the Base. The work at the front was very hard, the lodgings very uncomfortable, and the fare for the sisters, as for everyone else, very monotonous. The sister who nursed me had been living in a bell-tent on the top of a bare and wind-swept hill all through the bitter cold of 1917, and had had to go out every morning to get water to wash in. When I was twelve years old, in 1867-1868, I was Junior in Chambers at Winchester. That winter all our taps froze in College, and I had to bring water for ten or eleven boys to wash in from a stream a furlong away, so I could sympathize with her. But I never heard the least complaint, and I never saw the sisters other than kind, cheerful, and hardworking. There was no question about the excellent effect they had upon the standard of nursing and upon the patients. Many of them were nurses I knew at St. Bartholomew's, and one of them the sister of one of my own wards there. As for danger, I remember

“Lady Maud” being asked by someone whether we ought to send sisters up to some rather advanced hospital on account of possible danger from shells. She said, “Oh! I think the girls would like it.” A few did, I am sorry to say, lose their lives, both at the front and at the base, but I think all from bombs. There was more than one occasion when they stood fire with great courage. The most unsparing worker of all was the Chief Matron whom I have named so disrespectfully above. She was obeyed, for she was very strict, but she was kind, and, I have always heard it said, very just. She was an extremely capable administrator.

In the last two years we trained many sisters as anæsthetists, on account of the great shortage of Medical Officers. They gave anæsthetics extremely well.

I have already described the Rest Stations for convalescents at the front; in 1917 a system of Convalescent Camps was instituted for the Base also, to which men were sent after leaving a Base hospital before rejoining the regiment. The object was not merely to recover their physical health but also to re-establish their temper and spirits. They had been fighting without ceasing from April to November, and latterly under dreadful conditions. They were thoroughly tired out, and had had heavy losses. Under such circumstances men in civil life become irritable and depressed, and so do soldiers.

These Convalescent Camps were therefore intended both to recover men from their physical weakness, and also to give them a cheerful and interesting holiday. One such was near Rouen. On one side of the road were the dormitory huts, the mess-rooms, kitchens, parade-ground, and gymnasium. On the other was a large cricket-field with writing-rooms, reading-rooms, lecture-rooms, and canteen around it. The morning was given up to spells of various training exercises. These included

dancing, for which there was a band, and several of the games which have taken the place of the Swedish physical exercises, and are a great improvement on them. In the afternoons there were cricket or football matches and cross-country runs. In the evening concerts, plays, lectures, and boxing competitions. A division of the quarters into sections provided competition in all sports. The Camp also farmed fifty acres of land, which to many of the men was an interesting form of exercise. A Camp of this kind required a C.O. with powers both of organization and of sympathy; and such men were very carefully selected. Some of the Camps, no doubt, were better than others but there was no question of the general success of the scheme. They sent the men back fit and cheery.

Especial care had to be taken with convalescents from dysentery and from rapid action of the heart. Often a dysentery patient remained without symptoms in hospital, but relapsed when he began the more active life and more ordinary diet of a Convalescent Camp. He would still more certainly have relapsed if he had been sent to his regiment, and he would probably have infected other people. Such cases were at once returned to the hospital.

Cases with palpitation or with rapid pulse required a special course of training. This was carried out at a hospital by specially selected Medical Officers up to the point at which they considered the patient fit for more active work. He was then transferred to a Convalescent Camp, where the exercise was always graduated. If it was found that the palpitation and similar symptoms recurred, the man was returned.

One of the great blots on our medical arrangements was the dentistry. In peace the Army has no dental officers, but sends its men to civil dentists and pays

a capitation fee. A scheme had therefore to be improvised. Its great defect was its utter insufficiency. I was told there were only ninety-six dentists in France, which is about one to every 20,000 men. That I can hardly credit. But there certainly were very few. The Americans had a dentist at first to every 1,000 men, and they increased them later. A dentist told me that he had an average of forty to fifty patients every morning. He could do nothing whatever but pull their teeth out. If he had tried to stop them, each would take three-quarters of an hour, which means thirty hours' work in the twenty-four. Nor, again, had they any dental mechanics, except here and there, though there were several in the fighting ranks and the labour battalions. There was insufficient organization and no supervision. And again, while no English dentist was promoted beyond the rank of Captain, two dentists who had no registrable English qualification were given the rank of Major. The dentists were a very skilful body of men, and their branch of our profession was badly treated. I gathered that the French treated them even worse, for in 1915 I heard M. Godart declare that in the interests of the wounded he was going to allow dentists to hold commissions in future.

The English need to encourage dentistry, for they have worse teeth than most nations, for the simple reason that they are so disgustingly dirty. We laugh at some people because they do not take a morning tub, but we are not ashamed to keep our teeth in a condition which it makes one sick to see. We do not appear to realize that the alimentary canal is necessarily filthy, and that the one end of it is just as bad as the other. I have seen officers whose mouths would be disgraceful even in a tramp, and I do not suppose one workman in a thousand ever brushes his teeth. Canadian and American officers

usually are clean about the mouth; we as a whole are not.

When I went to Paris in November, 1915, I went over the schools of education for the disabled that had been set up in the grand Palais. There were two departments entirely separate—one for restoring to health men who had temporarily lost muscular power as the result of a wound; the other for training permanently disabled men to some trade suited to their condition.

In the first department many ingenious devices were employed, such as various forms of electricity douches, baths of circulating water, and the Zander system of moving muscles by various machines. The best of all, as it seemed to me, were the methods that had been invented for inducing a natural effort in the patient himself. We developed this method to a greater degree at a later date in our orthopædic hospitals at home, where there were workshops in which men were given employment exactly calculated to develop the muscles which were weak. Work, such as making cigarettes, making splints, and similar things, is much more interesting than routine exercises, and the use of the muscles is more natural and therefore more thorough than any exercises that can be devised.

At the Grand Palais, in the department for men permanently disabled, many trades were taught—iron-work, carpentering, wood-carving, cardboard-work, boot-making, harness-making, and some intellectual things, such as book-keeping and the English language. This also we have developed. The French officers told me that one or two trades, such as watch-making, had been captured by women, and that it was of no use to teach them to the men. They had selected the trades they taught on the advice of the trade unions.

CHAPTER X

THE CRITICS

ALTHOUGH our Service has in my judgment been on the whole extremely good, and from all I can hear far better than in any war before, there has not been wanting throughout the campaigns a certain amount of adverse criticism both of the treatment and of the administration. In so critical a profession as mine, the former is not in the least astonishing. No one of us ever likes taking over a case from another man, for he invariably, I really believe invariably, thinks he could have treated it better himself. If he is well-mannered, he does not air that opinion. If he is not, he tells the patient that it is lucky he came to him in time. We all know that phenomenon perfectly well in ordinary times, and it is much more pronounced in war, because all the patients change hands repeatedly, so that there is constant opportunity for its display. In addition, they are many of them extremely ill, and since the different men under whose care they come are ignorant of the conditions under which they were treated before, each is very apt to ascribe all ill success to the surgeon who preceded him. So it came to pass that the Clearing Stations said that the Field Ambulances might take a little more trouble, the Base hospitals ascribed all sepsis to the incompetence of the Clearing Stations, and they themselves were in their turn severely criticized by the hospitals

at home. Certain operations, too, were denounced, and others recommended in their stead, by men who did not know that what they suggested had already been fully tried and deliberately abandoned. That is all part of the game. We undoubtedly did meet with occasional mistakes, and when we did, we kindly but firmly made the most of them, for future guidance. But the chief part of all such criticism was due to ignorance of the conditions under which the work was done, and considering what those were it was done exceedingly well. We had also scores of nostrums sent us, some from doctors, some from peers, some from ladies, some from tradesmen—in fact, from all kinds of persons and on all kinds of subjects. It is not strange that the strain and anxiety of war, which I am inclined to think was even more severely felt in England than abroad, should affect and impair the judgment. Sometimes it led men to advocate methods as infallible of whose efficacy they had no sound evidence whatever. At other times it led them to chafe so bitterly at the exasperating tardiness of War Office machinery as to impute it to personal spite. I have differed strongly from many people on many things, but I have come to the conclusion that it is rarely that others are not just as anxious as myself to do the best thing possible, and that whatever I may think of their reasons I have usually been wrong in criticizing their motives.

The administration of the Service was also the subject of criticism. We heard of one such attack at home as early as 1915. In 1916 Lord Charnwood came out to inquire and report and later, in 1917, a Commission of six or seven medical men. Both parties had been assured that the Director General and his staff would endeavour to throw dust in their eyes and conceal the

disgraceful facts, and both afforded us a little amusement in consequence. But I think both quickly realized that they were entirely welcome to see with their own eyes anything that they wished, and that there was not much fault to find.

The chief complaint of the critics at home was that more officers were employed than were needed. But they were ignorant, sometimes amusingly ignorant, of organization, and did not realize how much larger a number of Medical Officers is required by a fighting force than by a civil population.

Taking a Division at roughly 20,000 men, there are on its establishment

One M.O. to each battalion	..	..	..	12
One M.O. to certain other units, say	..	..	..	5
Nine to each Field Ambulance	..	..	..	27
The A.D.M.S. and his deputy	..	..	..	2
				46

On the Line of Communication it has one Clearing Station with seven officers allotted to it as its quota, and at the Base it theoretically requires two General Hospitals, but in France, which was within easy reach of home, the proportion was about one to the Division. A General Hospital has nineteen Medical Officers. Adding these all together, the total is 72 officers per division of 20,000 men, or roughly an officer to every 300 men without including the few officers employed with Motor Ambulance Convoys and Hospital Trains. That seems excessive if it is compared to the proportion in the civil population, which is about one doctor to 1,500 persons. Yet, if the conditions are examined, it is easy to see that the number is necessary, and that the reason why so many are required is that a sick or wounded soldier cannot be treated in one place by one man, but has to

be carried down the line in successive stages, at each of which he must be ensured adequate care and attention. Let us trace the stages.

I have heard that some Regimental Medical Officers complained that their work took them only half an hour a day, and others that it was not important enough to require a qualified doctor. I have no hesitation whatever in saying that such officers did not know or do their duty. If anyone wishes to know what a Regimental M.O.'s duty is I should recommend them to read a little book called "The Whole Duty of the Regimental Medical Officer," by Captain Percy Wood,* who has been many years in a large civil practice, and therefore approaches the subject from his own experience of what is required, without any official prejudice in favour of the system. Captain Wood is well known to all of us at St. Bartholomew's, and what he says may be trusted. I will not analyze the book, but anyone who reads it will realize not only that the work is of great importance, but also that it must even in quiet times take up a large part of the day. When fighting is going on the Regimental Medical Officer is the first man to see the wounded, and he is frequently out on the field of battle before the firing has ceased. Many lost their lives and many more were wounded while doing so. I knew many men of high professional attainment who remained in this position throughout the war, and I never heard one of them talk of their work in any other terms than those used by Captain Wood. The nation would never allow a battalion of a thousand strong to be left without a regular Medical Officer, and it would be perfectly right. The same reasoning applies to a few bodies of men, such as artillery brigades, who act

* Published by Forster, Groom & Co., 1919.

apart, and who also require medical care. It is true that they are sometimes within reach of a Field Ambulance which might attend their sick, but the Ambulance officer certainly could not perform the other duties of the Brigade Medical Officer, nor would he be at hand to see casualties. It is also far better that any large body of men should be under the permanent care of one doctor, since he then gets to know them, and gets a position and an influence which is of great importance.

At the next stage, it is possible that there might be a different distribution of officers between the Field Ambulances and the Clearing Stations. But even if this were possible, and some good judges think it is not, everyone allows that the Clearing Stations are understaffed, and that what is taken from the Ambulances must be given to them, without any prospect of saving on the total. A General Hospital is supposed to have 520 beds, but in practice none of them, I think, had less than 1,000, and some had more. For that the nineteen officers on their establishment are none too many. At St. Bartholomew's the "services" vary from forty-five to sixty beds, and there are two officers for each beside the Resident.

In reality we were never, after the first year or so, up to establishment. Early in 1917 I used to hear great complaints from Sir John Bradford of the deficiency at the Base. At one time he had one officer looking after two hundred cases of dysentery. And the difficulty was increased by the constant shifting which was necessary to replace wastage, which occurs in the R.A.M.C just as in other parts of the Army. Within a year and nine months we lost two thousand officers from duty, some, no doubt, for short periods only, others for longer, and some by death. In September, 1917, I have a note

that our total ration strength, including soldiers and labour of various kinds, was round about two millions and a half, while the R.A.M.C. had only about five thousand officers, including four hundred and fifty Regulars and three thousand seven hundred temporary commissions from England, the remainder being made up by doctors from the Dominions and the United States. At that time we had two hundred and sixty-three fewer British civilian doctors than a year previously.

I have heard it suggested that officers might have been sent back in quiet times, say in the winter, and recalled when the campaign reopened. That sounds plausible, but when it is examined it falls to the ground. In the first place, the winter, though it is the time of the least casualties from wounds, is the period of greatest sickness. Secondly, since it would have been impossible to dispense with any M.O.'s in the Divisions whose duties are the same all the year round, the officers for home must have been drawn from the Clearing Stations or Base hospitals. The winter is the great leave-time for Medical Officers, and the Clearing Stations usually had one of their officers away, leaving only five to work the wards, which was certainly the minimum required. From what I heard, I judge that the Base seldom had enough officers. The only means of sending home officers would have been to shut down a certain number of hospitals, and I am confident that the conditions would not have permitted of that being done with safety. For it has to be remembered that the staff of the Medical Service has to be at all times prepared. They know when we are going to attack, and have a certain amount of time to make their dispositions, though, as we more and more developed the method of surprise, the warning became for purposes of secrecy very short. But they

never know what the enemy intend, and they may at any time suddenly have to treat at any place on the line three thousand cases of gas-poisoning, or a still larger number of wounded. They cannot afford to risk inefficiency by diminishing their staff, and if they did, the public would very rightly crucify every one of them. It is futile to say that they should have a full supply of officers when they are wanted, and should send them home when they know they will not be wanted, for the latter time never comes.

Another line of criticism was directed to the distribution of hospital accommodation, and it was suggested that in the interest of the wounded the hospitals close behind the front should be largely increased in order that the patient might be longer retained and more fully treated, before he was put on the train and sent down. The whole policy of evacuation was arraigned.

This, too, is a very plausible scheme to those who do not know what the conditions of warfare are. There are, however, two reasons against it, which seem to me convincing. The first is the extreme difficulty of supply. No one who has not seen it can realize the immense stores that have daily to go over the railways to the front area, nor the congestion that inevitably occurs in the traffic. I have often seen four complete trains of between forty and fifty waggons each, one behind the other, delayed by some slight hitch in front. The Supply officers are always very anxious about the supply of food and ammunition, and it is not to be expected that the commanders should sacrifice the success of operations or the safety of their troops, which depend upon supplies, to anything but the greatest necessity. The second reason is the safety of the hospitals themselves. No army can ensure against defeat, and if it

is forced to retreat rapidly, as was the Fifth Army in 1918, it will very likely lose, as we then did, a large amount of hospital equipment, and perhaps even, as on the Aisne, its wounded. The French had there an enormous hospital, and in the rapid German advance of May lost every stick of it. Such an event means not only a great money loss at the time, but also great delay before the hospitals can be replaced, and get to work again. These two reasons are sufficient to force the system of evacuation on every army, and every army has accordingly adopted it. I have pointed out its disadvantages already, but I said then, and I say again, that it is undoubtedly a necessary evil. The Germans and the French treat the question exactly in the same way as we. The French system is a little different to our own, for though they do not, I think, provide any more hospital accommodation at the front than we, they mass it in larger units, and they build these more elaborately. Our best pitches for Clearing Stations were those we took over from the French. At Cayeux, for instance, south of Amiens, the French had taken a large plot of land in the valley. They had deflected the main road, they had laid a railway, and they had built a large hutted hospital on an excellent and most convenient plan. They were able to do this because they were in their own country, they took what land they wanted, and they had unlimited supplies of wood. We had none of these advantages, and had to put up with what we could get. But the system of large wooden hospitals has its disadvantages also. Such a hospital took a couple of months to build, and was quite immovable when it was built. It was good for the stationary part of the war, but it was very unsuited to movement. In place of one large hospital of this kind, we should have

had two or three Clearing Stations holding altogether an equal number of patients, each of which could pitch sufficiently to start work in forty-eight hours, and could pack up and go on in nearly as short a time. When the French Divisions reinforced us on the Lys, they had to use our Clearing Stations for the first few weeks, because they could not get their "auto-chirs" to work under that time, though they were occupying already existing buildings. I am told that their Medical Officers were surprised not only at the mobility and adaptability of our system, but also at the operations that we could do in the Clearing Stations. I know that the Americans were full of admiration for both.

CHAPTER XI

ENTERIC FEVER

THE greatest surprise of the war was the small number of typhoid cases. The total number was stated in Parliament to be only 1,365 up to November 10, 1915. The French, on the contrary, had between fifty and sixty thousand in the first nine months. There was probably more than one reason for the difference. In the first place, we were better inoculated against it. Inoculation is not compulsory in our Army, but the men were strongly urged to have it done, and were sensible enough to take the advice of their officers. Our rate of inoculation was never, I believe, under 90 and in some Divisions reached 95 or 96 per cent. But I once was asked by the present Director General, when he was A.D.M.S. of a Division, to come up and strengthen his hands against some of the young officers who had come back from leave primed by one or two London doctors, who ought to have known better, with opinions against the usefulness of inoculation. The efficiency of inoculation had already been proved in India, and was confirmed by the figures of this campaign. It was stated in Parliament that up to November 10, 1915, there had been among the inoculated men 579 cases with 35 deaths (a fatality of 6 per cent.), and among the uninoculated 571 cases with 115 deaths (a fatality of 20 per cent.). It is clear not only that the disease is

rendered much slighter and less fatal by inoculation, but, since the uninoculated men were not more than a tenth of the whole, that inoculation greatly decreases the risk of catching it.

In the French Army the rate of inoculation was supposed to be very much lower, and there was some evidence that either the strain which they used was less capable of producing the necessary antidote, or their method of storage destroyed its potency. They altered the strain and increased the rate of inoculation at about the same time, so that the two causes could not be distinguished; but the changes they made were very efficacious, and their enteric rate fell with great rapidity.

In the second place, our men are cleaner. Our labourers, especially peasants, do not look nearly so clean as the French. But the Army is very clean. Everywhere I used to see soldiers washing as I drove along. They delighted in the hot baths that were run at various centres, and in the summer they bathed in every bit of water that would hold a man. I saw in Paris a French musical comedy in which the scene was in the trenches, and one of the characters represented a British soldier. He had been taken prisoner, but had escaped into the French lines. The moment he came in he produced soap and a razor, and had a shave. That was the French view of us, and the French officers themselves thought our men much cleaner than theirs.

Thirdly, our sanitary arrangements were very much better. Latrines are always dug and carefully kept in every camp, however small, and water is always either boiled or disinfected before being issued. No doubt in many cases, especially in hot weather, men got at unauthorized water. But this was always the excep-

tion after October, 1914, when we settled into the trenches. The influence of combatant officers was a great help in all this. We learnt our lesson in South Africa, where we had 58,000 cases of enteric.

Lastly, the bacteriologists hunted "typhoid carriers" as hounds hunt a fox.

Every case of typhoid is caught from some other man, and the sources of infection are either acute cases or those who have recovered from the illness, but retain in their body the germs of the disease. These germs are perpetually leaving the body with the excreta, and in various ways reach the food or drink of neighbouring persons. Wherever, therefore, two or three cases of typhoid occurred in a unit, the presence of a "carrier" was suspected and a hunt was made. All those who had had typhoid at any previous time were separated, and samples of the excreta of every one of them was cultivated in the usual way. There was great rejoicing in the laboratory when a "carrier" was found. On many occasions an outbreak of typhoid was thus stopped.

One of these carriers had been kept in a military hospital for a year, and then discharged the service. He had re-enlisted, and was the cause of an outbreak.

The germs lurk in two places, the gall-bladder and the kidneys. To interfere with either is a serious operation. But it has been done in these cases, and sometimes with good results. If persons so infected do not consent to such measures, or if the operation does not succeed in its object, the only safe thing to do is to keep them permanently isolated. To this many of them would object, and if they do the State is at present in a difficulty. There is no doubt that if we are ever governed on strict socialist principles the individual will have a

good deal less freedom, and stricter measures will be taken with these as well as with many other cases of disease, deficiency, or habitual indulgence.

In the spring of 1915 we began to see a good many cases of an allied disease, paratyphoid. It resembles typhoid, though usually milder, and is caused by bacilli, which are of the same family as the *B. typhosus*, which is the cause of true typhoid. Inoculation against the *B. typhosus* does not protect against these others. There are two varieties of it, known respectively as paratyphoid A and paratyphoid B. We made, eventually, a vaccine containing all three germs. "Enteric fever" includes typhoid and paratyphoid.

Further, we found, when about April we extended our lines north of Ypres, that there was a large number of typhoid cases among the Belgian population there. If inoculation was a perfect safeguard it would not have been dangerous. But even a previous attack of typhoid itself does not invariably prevent a second, and there will always be some cases in inoculated men if a large number of them are exposed to infection.

It was therefore decided to collect all the cases in the civil population and treat them in hospitals. The Society of Friends had a hospital unit in Belgium, and they had been treating cases of typhoid in a house called the Château Elizabeth, in the outskirts of Poperinghe. We took over a half-empty monastery called Malassise about half a mile out of St. Omer, and by the help of the Friends, who worked loyally for the Army, we gradually collected all the people who had typhoid, or had had it, or were suspicious cases, at Malassise. Château Elizabeth acted as a Clearing Station to us. At one time we had about 500 such cases at once.

Besides this medical work, the Friends' Ambulance

cars did some very brave rescue work when in May, 1915, owing to the heavy shelling, we had to clear all civilians out of Ypres. They were very reluctant to leave and it was a matter of difficulty as well as of danger; but the Friends had obtained their confidence, and were able to persuade them to come away. I heard of one old woman who found that she had forgotten to bring 700 francs, which was all she possessed, away with her. It was retrieved for her by one of the Friends' officers, who went in under a heavy bombardment to fetch it.

The poor people who came to Malassise could only talk Flemish, and it was rather like veterinary practice, in which your patients cannot give you any information. On the other hand, they tell you no lies, and it is about as broad as it is long.

Some of them could talk a little French, and a few of them were nuns who were able to speak French fairly well. A large number were children.

They were an unusual collection of cases, and showed some unusual features. One of these was a great liability to relapses, and another was a tendency to mental affection. We all have seen temporary insanity after typhoid fever, but I never saw so much as I did at Malassise.

From Malassise we sent them down to a convalescent hospital at Montreuil as soon as they were free from germs. But some of them retained their germs so long as to merit the term "chronic carrier," and the difficulty of these cases was great. If they went to Montreuil and were then sent back to their homes they were very likely to become a danger to our troops. But, of course, they did not understand why we were unwilling to discharge them when they felt well, and we had no real

power to detain them. We did the best we could, but it was always a difficult task for the C.O. at Malassise.

I remember one case of mental alteration which was for the better. She had been a naughty little girl in her original fever, but in a relapse she quickly became quite angelic. We were rather anxious at this unusual development, but no harm came of it. She recovered from the relapse, and also from her morbid access of virtue. Poor people! they dreaded coming to us at first, but they soon got to know that they were well looked after at Malassise, and they were very good and patient—it was a sort of dumb suffering that was pitiable to see, for many of them had lost their homes and some their families. I think they had undergone great hardships before they came to us.

The result was highly successful. There was no rise in the rate of enteric among the troops. Indeed, it fell steadily almost the whole of the first six months of 1915.

There were always a few cases of paratyphoid, most of them paratyphoid B, and in July there was a considerable rise, especially about Dranoutre, a little village a few miles north-east of Bailleul. Three Divisions which held this area in turn each began, about a fortnight after coming into it, to have cases of the disease. At last, again by the help of the Friends, who were invaluable with the civil population, we ran several cases to earth among the inhabitants, one of whom was selling food to the soldiers, and managed to persuade them to go into Malassise. Such a task was always difficult. On one occasion a farm was visited, and only one old man was found. He swore he lived alone, but further information coming to hand, the house was revisited, and two people were found lying in bed ill of typhoid fever.

When the monastery of Malassise was suppressed, the French Government had allowed the old and decrepit monks to stay. These old brothers remained there during our occupation, and were a most curious collection. Every one of them seemed to have come straight out of the caricatures that advertisements of various forms of drink have made familiar. They were a teaching Order.

To show how thorough was the search for carriers I may mention a case among our own troops. A certain battalion, while in the trenches, had eight cases of paratyphoid B. They had been isolated in the trenches long enough to render it improbable that the disease had been caught from civilians. Immediately they were relieved all the men who had reported sick in the last two months, and all the new drafts who had joined in the last month, ninety-six in all, were paraded. A sample of blood was taken from every one of the ninety-six, and tested by agglutination against a culture of the bacillus of paratyphoid B. One man alone responded to the test, showing that he had had the fever. He was brought into hospital, and the excreta were cultivated. For three days the cultures were sterile, but on the fourth, after a purge had been given, the cultures were again made, and this time with positive results. The "carrier" had been discovered.

For the benefit of lay-readers I may explain the way in which such a disease as typhoid fever is verified in the laboratory. It is due to a bacillus, *B. typhosus*, which, taken into the body by the mouth, grows in the intestine, and after about a fortnight spreads into the blood. A single drop of blood does not contain it in sufficient numbers to be recognizable, so a small amount is drawn from a vein and incubated in order to increase

the growth. Before the days of preventive inoculation this was usually successful, and if the blood was examined during the first ten days of the fever the bacillus could thus be seen under the microscope. Inoculation, however, seems to prevent the bacillus from growing freely in the blood, even though the patient catches typhoid. It was hardly ever found after the third day, and seldom even then. It had therefore to be sought in the excreta from the intestine, which is its main habitat. But the intestine contains millions of other bacilli, some of them very like *B. typhosus*, and it is therefore impossible to be certain of the presence of the latter either in a fresh specimen or in a culture, unless the others can be destroyed. The first step, therefore, is to add something to the culture medium which will stop the growth of other organisms than the *B. typhosus*. If after this is done the *B. typhosus* grows, the diagnosis is certain.

Another method of an entirely different kind is used, either to confirm the former or to replace it if the culture method fails. We all know that the common infectious fevers rarely attack anyone who has once had them. He is usually safe for the rest of his life. Pathologists, thinking over this, could explain it only by supposing that the poison of the fever either exhausted once for all the special nutriment in the blood on which they lived, or else created some kind of antidote to themselves which remained more or less permanently in the body. The latter was proved to be the true reason, and it was gradually understood that this formation of antidote explained recovery from the fever itself. Scarlet fever lasts until the body grows sufficient antidote. Then the fever drops and the patient recovers. He is still harbouring the infection, for others can catch the fever from him during his convalescence, but it is

harmless to himself. A "typhoid carrier" is not ill himself, though he still has *B. typhosus* in his system. To complete the picture, we believe that a fatal result is either due to an unusually powerful form of the poison, perhaps merely that the patient has taken in an extraordinary number of the bacilli, or perhaps that the bacilli have become excessively poisonous, or else is due to some incapacity on the part of the patient to form in his blood the necessary antidote.

This knowledge has been exploited along several different lines. First it led to preventive or prophylactic inoculation, which aims at giving a man the disease in so slight a form that, while it renders him "immune," it does not make him seriously ill. The first example of this was vaccination, though it was discovered by Jenner's observation that milkers who caught sores on their hands from the cow were protected against smallpox long before the theory of immunity was formed. In that case the poison of smallpox was weakened by passing through the cow to such a degree that it produced a very slight illness. The next instance was Pasteur's treatment of hydrophobia. He weakened the poison of rabies by drying the nervous tissue in which it grew, and found that he could catch up the natural infection and produce antidote by his inoculation before the poison of a mad dog's bite had time to grow. Inoculation against typhoid is the same process more exactly carried out, and other preventive inoculations have been tried with some success.

Again, the antidote can in some cases be grown outside the human body, and a supply injected into a patient after he has caught the disease. Diphtheria was the first instance of this. Diphtheria bacilli are injected in safe doses into horses, who are then bled,

and yield in their blood an antidote which we call the antitoxin of diphtheria. Every case of diphtheria is now injected with the clear serum of a horse's blood containing this antidote. Tetanus antitoxin, which has been of the greatest use during the war, is a similar antidote similarly used.

Then a third idea arose that when a patient was being poisoned by a microbe, and was not overcoming it, it might be possible, by injecting more of the same microbe into his tissues, to quicken the production of antidote, or perhaps to stimulate other parts of his system to supply it. This is "curative" vaccination as opposed to prophylactic. It is the least successful application of the theory, and is very uncertain in its results.

All these methods have been for the purposes of prevention or cure. But the facts have been adapted to diagnosis also. Immunity means the power to destroy the microbe, and can only be measured by its power to do this. Pathologists talk of the "immune body" as the material form of this power, though it is a thing which up to the present we can neither weigh nor see. We can only recognize it by its action. But there are by-products of the process of immunization which we can see, and have used and do use as evidence that immunity exists. When a microbe is injected in a dose too weak to kill, the white cells of the blood absorb it and eat it up. It was found that by further injection this power could be increased, and the name "opsonin" was coined to describe the power thus given to the defensive cells. It was at one time held that this could be measured, and might be accepted as an index of the degree of immunity reached against the toxin of the microbe. But this method is now abandoned as unreliable. Another method is the enumeration of the

defensive cells themselves. In pneumonia, for instance, a large increase in one class of these cells is thought to indicate that the patient is making good resistance to the toxin of the pneumococci which have attacked him. This is, however, not a very certain piece of evidence.

But two methods are of great value. One is the "deviation of complement," by which incomprehensible name is meant the power of the immune body to prevent certain processes which in its absence will take place when special albuminous fluids are mixed together in the laboratory. The other, which is called "agglutination," is easier to understand.

If you look through the microscope at a drop of fluid in which *B. typhosus* is growing, you see the field swarming with little short rods, which are scuttling about it in all directions like tiny fishes. If you now add to this scene a drop of the clear serum from the blood of a man who has had typhoid, it puts an entire stop to the festivities. The bacilli begin to move slowly, and to pack together in clumps. In a little while there is nothing left but little masses of lifeless and immovable organisms, clotted by some substance which we call "agglutinin" existing in the serum. This is the reaction known by the name of Widal, the physician of Paris who, though not the discoverer, first brought it into common use; and when the bacillus of typhoid cannot be grown either from the blood or from the excreta, this is the only means we have, besides the clinical symptoms, for diagnosing the disease.

It is an instance of the unreliability of popular fame that among pathologists the most revered name among living men is that of Bordet of Brussels, of whom few people outside my profession have ever heard. He

has been the great pioneer in all this work on the theory of immunity.

It may be thought that physicians ought to diagnose typhoid without having to ask bacteriologists to do it for them, and in natural typhoid they can. Even under the conditions of inoculation, there were some cases in which the clinical diagnosis was clear and the laboratory diagnosis failed. But inoculation not only greatly lessened the death-rate, but so modified the disease, that this became in many cases a slight illness with nothing distinctive about it. Triple inoculation for typhoid and A and B paratyphoid—T.A.B. as it is called—altered it still more. Under these conditions the laboratory tests were of great importance.

But in them, too, difficulties arose. When a man has had typhoid or has been inoculated for it, he shows the natural picture of agglutination. But if you suspect that an inoculated patient has, in spite of inoculation, caught typhoid, how are you to distinguish the effect of the one from that of the other? That was the first puzzle. Later, when inoculation for the paratyphoids was added, and the men had the triple inoculation T.A.B. it was found that each of them modified the agglutination of the others, and the result was extremely confusing. Then Professor Dreyer of Oxford produced an elaborate method by which the test was carried out on all three kinds of bacilli, not once, but several times at stated intervals, and thus again gave the laboratories a test which has been widely accepted as reliable.

I have illustrated this method by enteric, but it is used for other diseases as well.

This work and work like it was of the utmost service to the Army, and has been unknown in any previous war. This is the first time that bacteriologists and their laboratories have been brought into the field.

The first that came out was under Sidney Rowland, a pathologist from the Lister Institute, who had fitted up a motor touring caravan for the purpose. He was a man who had set before himself a life of science in the devoted and utterly unselfish spirit of an old monk—a man of an unclouded gaiety of disposition, and of a serious and liberal sympathy with human life, an indefatigable worker and a delightful companion. He died from cerebro-spinal fever after he had been working on it for fully two years, and his death was one of the greatest losses of the war in my profession.

The first Mobile Field Laboratory so impressed the authorities with its value that others were quickly supplied. By October, 1915, there was one at No. 10 Clearing Station near Poperinghe, one at Bailleul, and one at Lillers, with two officers in each, and the Canadian Field Laboratory with three officers was at Merville. In October another was sent to Hazebrouck, where there were three Clearing Stations. It obtained distinction at a bound by reason of the orderly attached to it, who, in the space of a fortnight, drank two litres of absolute alcohol and one gallon of methylated spirit, which were part of the stock-in-trade of the laboratory. There were also two mobile laboratories for water analysis, whose officers were attached to the First and Second Armies respectively, and were busily employed in examining the various supplies of water all over the country. As other Armies were formed, similar bacteriological laboratories were attached to them, and bacteriologists were also placed in one or two hospitals at the front.

The first work done by No. 1 Laboratory was the investigation of wounds and the discovery of the species of bacilli that were producing gas gangrene, which was the worst of the septic diseases. By the time that I

came up to the front in 1914, the prevention of the spread of enteric had become the most pressing question, and after Christmas cerebro-spinal fever occupied the chief place. The next two mobile laboratories, Nos. 2 and 3, did not appear till the spring. From that time till the autumn they were chiefly occupied with enteric, paratyphoid, and the peculiar short fevers that were very frequent in the Army, one of which we nicknamed "trench fever."

But the work of the bacteriologists was not confined to these subjects. They acted also as clinical pathologists for the hospitals within their zones, and were constantly called in for purposes of diagnosis or to make vaccine for treatment.

There was at times less medical than surgical work at the front, for the Army was extraordinarily healthy, but the investigation with the bacteriologists of cerebro-spinal and trench fever was most interesting and instructive. I enjoyed nothing more than the hours spent in their laboratories.

Apart, too, from the direct results they were able to obtain, their influence upon the work of the hospitals was great. Where there was a bacteriologist at hand the officers in charge of medical cases could investigate them as carefully as at home, and in consequence did so. Where there was not, they were perforce obliged to be content with a less exact diagnosis, and, as always then happens, were less interested in their cases and less careful in their work. Bacteriology is one of the strong points of the R.A.M.C., and we had friends at court. The Adviser in Pathology, an officer whose name is known all over the world, encouraged the scientific side of medicine by every means in his power, and on the staff of the D.G. was another, who, though compelled

by seniority to serve tables for the most part, had been Professor of Pathology at the R.A.M. College, and was always on the side of the angels. In 1918 the former Adviser went home and was replaced by the latter officer.

The bacteriologists in charge of these stations were each given a motor, and used to divide their time between their laboratories and their visiting work. Each had his own area, and was summoned by any Field Ambulance or Clearing Station in which a case of enteric or other infectious fever appeared.

At a later date an Assistant Adviser in Pathology was appointed for each Army, with the rank of Major, which was a great improvement in organization.

There was a story against one of our bacteriologists. He was very short of guinea-pigs, and the mess declared that he had induced the neighbouring curés to pronounce from the pulpit that any child who possessed guinea-pigs would earn merit by taking any she could spare to the English hospital to help in curing the sick and wounded. He soon had as many as he wanted, but he denied the pulpits, and said it was the school-masters who had helped him.

Both dysentery and enteric were a terrible scourge at Gallipoli, and we began to see dysentery in 1916, when troops which had been there came over to France. It broke out both at the Base, where the reinforcement camps were, and on the front also when we were fighting on the Somme. From that time we were never quite free from it, and in the warm weather it increased. It was not a very bad kind, and we had few deaths, but it was extremely difficult to get the patients into such a state that, besides being in good health themselves, they should not be a danger to others. It required great care and precautions.

CHAPTER XII

CEREBRO-SPINAL FEVER

AN epidemic of cerebro-spinal fever broke out among the troops in France in January, 1915, and lasted till August.

This fever had never hitherto been rife in England, though small outbreaks had taken place in various parts of the country. We always have a few scattered cases among children in London, but we have never had an epidemic there. It is the most distressing illness I have ever had to treat.

The First Canadian contingent had a case before they left Canada, and one or two during the voyage. When they were on Salisbury Plain they had a number of them, and there seems no doubt that the English epidemic, which was very severe both among the troops and in the civil population, started from this contingent. Their first Division landed in France shortly before Christmas, and the first case among our troops there was found at Boulogne in the first week of January. Within a fortnight we had 7 or 8 cases at St. Omer. No. 10 Stationary was made the chief hospital for this disease, and we treated there 150 cases that spring, while 30 or 40 were treated at No. 14 Stationary, at Wimereux, beside those we sent down convalescent.

The number of cases was not large, and its effect upon the strength of the Army was unimportant. Its spread was difficult to understand, for the first set of cases came from all parts of the Army, and could not

be traced to any contact with the Canadians. Throughout the epidemic the same absence of direct contagion was noticeable, and very few units sent in more than one case. I believe that in England it was rare to get more than one case from a hut, though the huts were crowded.

Evidently, then, the germ, though existing all over the Army, produced the fever in very few individuals. There must have been hundreds of men who were exposed to it, and probably carried it, for one who took the disease. It seemed to be a very widespread and, therefore, a very numerous invasion, but weak in attack, and successfully resisted by most people.

It is known to live in the mucous membrane of the back of the nose, and for some time the bacteriologists were busily employed in hunting for carriers. Whenever a case occurred all men who had been in close contact with it were examined. Twenty or thirty contacts was a common thing. But the germ is difficult to determine. It has first to be grown on a medium containing fresh serum at a temperature over 23° C. ; next it has to be put through certain tests with sugars, lastly, it has to be agglutinated by an immune serum. The more of these tests that you omit, the greater the number of cases in which you think the germ to be present; the more conscientiously you carry out the tests, the fewer become the positive cases. Thus, in thirty contacts from which cultivations were taken, four cases grew, but only one gave the proper sugar reactions.

There was some evidence that the microbe was just as frequently found among the general population in England as among the contacts. If so, the isolation of contacts would lose all value.

With us, at any rate, the carrier became a comparatively unimportant item. We found a few, and kept them under treatment until the germ was no longer to be obtained from the nose. But we never traced a case of the fever to a carrier, and I do not remember to have seen any patient who could be supposed to have caught his attack from another man who had it. Some cases were inexplicable. A Medical Officer who had been for six weeks at a hospital where there had been no case of the kind was suddenly seized with it, and died in three days. Soon after that a Brigadier who had been in action with a brigade of guns caught it, and he also died very quickly. The two cases had no connection with each other, and no others occurred in the neighbourhood.

It was a very variable disease. Some cases died in twenty-four hours; on the other hand, we had one in which the fever lasted for over three months. Some were so slight that we were in doubt whether they really had it, for it was not in every case that the germ could be discovered. Others were long unconscious or shrieking with pain.

After months of practice we were almost as ill able to foretell the issue as at the beginning of the epidemic. A case that began mildly would often develop seriously, and relapses would occur when a patient appeared convalescent. It was an illness in which the conditions of one day had no apparent connection with those of the next. I know no other disease of such extreme uncertainty.

So far as the most careful observation could discover, the various methods of treatment then available were all equally ineffectual.

The first batch of cases was treated by intrathecal injection of an antiserum supplied from home. Almost

all of them died. Then we began to vaccinate with the microbe taken from fresh cases in the hope that the tissues would produce antidotes which, after absorption into the blood, would reach the base of the brain, where the germs were chiefly congregated, and destroy them. At first we used dead and later living germs, but without effect. Then, as the reports of the serum from the Pasteur Institute were good, I obtained a supply of it by the kindness of M. Roux, the Director, and we tried that in the precise way that was employed in Paris. Later we obtained Flexner serum, made by the New York Board of Health, and another serum made in America. At the last we did no more than draw off the spinal fluid whenever the patient complained of headache. At various times our hopes were raised. For a few cases some one method appeared to give unusually good results. But a longer experience always reduced them to the same average as before. The patients were carefully fed and treated, and were placed as nearly as possible in the open air. The rooms were large and lofty, with very large and high French windows. These were kept constantly open. Our mortality was just about 50 per cent.

We had to change the sisters not infrequently. A death-rate of half of all cases is too much for any nurse to stand. A doctor is not so much with the patients as a nurse, and has also the great interest of a study of the disease to relieve the gloom. Yet these wards affected one's spirits very much. The suffering, the miserable appearance of the men, and, above all, our impotence, were depressing in the extreme.

This was the story of the first year. But improvement has taken place since then, and the account is of great interest. The disease is due to a microbe called

“meningococcus,” and it was known that there were different varieties of it, just as there are different breeds of pigs, which grew under the same conditions and fermented the same sugars, but differed in agglutination. A composite serum made by injecting all the varieties then known into horses agglutinated them all, and was supplied for treatment. But when the outbreak of 1915 occurred it was found that this serum would not agglutinate the microbes grown from the cases then occurring. The inference was that they were fresh varieties which, since their specific agglutinin was not in the serum, had not been injected into the horses. It was most unlikely, therefore, that the specific antidote of these fresh varieties would be contained in the serum either, and it was not, therefore, to be expected that it should have any curative effect. The first thing necessary was to separate and to grow the various strains now active. Two very distinct types were found, and two others less distinct. Serum was then prepared by injecting all of them at once, and also other serums by injecting separate strains into horses. The first might be expected to produce a mixture of antidotes to all the types, though of no great strength against any one; the others would be stronger, but would only be of use against the particular variety used in their production. At first this promised well, but then, for some unknown reason, the serum ceased to agglutinate, and the death-rate, which had fallen, began again to rise. We in France received orders to discontinue the use of the official serum sent out from the Lister Institute, and to draw upon the Pasteur Institute. But we found that neither serum could agglutinate our meningococci, nor did either show any great curative power.

It may be imagined that this uncertainty completely

puzzled the pathologists who were making the serum, and eventually the Medical Research Committee under which they were working decided to take the injection of the horses into its own hands, in order, if possible, to discover the reason for it. It cannot be said that this is yet quite cleared up. But those who are working at it tell us that there is evidence of two facts: first, that the efficiency of the serum as a remedy depends upon its containing anti-endotoxin, and second, that the horses sometimes produce this, and sometimes do not, apparently according to some minute difference in the method or technique of the injection. Microbes may produce two kinds of poison. The first, which we call "exotoxin," they throw off into the blood while they are yet alive, much as we throw off excreta, urine, sweat or fæces from our bodies; but the second, which we call "endotoxin," resides in and is part of the body of the micrococcus, and is only given off when the micrococcus dies and is broken up. The latter is much the more difficult to test, and to use in experiment.

More recently still it has been stated that it is possible to separate the endotoxin from the rest of the substance of the microbe, and that the latter, though it does not produce poisonous symptoms in the patient, stimulates him to create the antidote; and, since it can be safely injected in much larger quantities than the original, will create larger quantities of antidote than could be formerly obtained. Presumably it would be an antidote, not to the poison of the microbe, but to the microbe itself. It would act by preventing its growth rather than by neutralizing the symptoms it produced.

But the interest lies not alone in the explanation of this particular problem, but in the wide possibilities which these ideas reveal. When the antitoxin of

diphtheria was discovered we confidently hoped that we had found a method which would be of wide application. It seemed as though we had only to find the microbe which caused any disease, to inject it into animals, produce the antidote, and then use this to cure the human patient. But of all those that have been tried up to now, two only have really established themselves—the antitoxin of diphtheria and that of tetanus. We have been unable to tell why other microbes should not produce antidotes; we have only known that we could not make the antitoxin. Now, it may turn out that the preparation of it in the living laboratory of the horse may be a much more delicate and varied matter than we thought; that some trivial change in the technique may enable us to make many more antidotes than we now can; and that many diseases which we cannot cure now we may cure hereafter by these means. Perhaps only doctors can feel the excitement of such a thought, but laymen can at least understand it.

CHAPTER XIII

TRENCH FEVER

THIS campaign was full of surprises. Perhaps nothing would astonish the ordinary layman more than the almost complete absence of rheumatic fever. This disease is closely associated in the public mind with cold and damp. Yet in a country that was a quagmire, where it rained for days and weeks together, so that the men were always wet and seldom warm, I do not think I saw five cases of rheumatic fever in the first year. This was not so astonishing to us, for although we are not yet agreed that the microbe of rheumatic fever has been identified, we all of us accept the fact that it is due to infection of some kind. Yet even with this knowledge many of us have been of the opinion that wet and cold, by lowering the power of resistance, favoured the introduction of the germ of rheumatic fever, and disposed a man to catch it.

On the other hand, the disease which, in spite of the veto of the College of Physicians, we still call muscular rheumatism, such as lumbago and stiffness of other groups of muscles, was extremely common. So, too, were various forms of neuritis, of which sciatica and brachial neuritis are the best-known examples.

But there were beside these an enormous number of slight, and for the most part short, cases of fever, to name which honestly was impossible.

In former days we should have been content to say that the patient had caught a chill. But bacteriology has made us more exacting, and we are not satisfied now unless we can find a microbe to explain every fever.

It was about May, 1915, that we began to recognize that there was a fever prevalent among the men which we had never seen before. It began like influenza, and the temperature fell to normal in three or four days; but, unlike influenza, a fresh attack began about the sixth or seventh day, and this process was sometimes repeated several times. It was, in fact, a relapsing fever with a cycle of about five days.

We are familiar with the relapses of malaria, in which the recurrence of fever is explained by the periodic ripening of a microscopic parasite which bursts and scatters its spores into the blood, and we at once began to look for some such body in the blood of these patients. An enterprising bacteriologist proved that there was some infectious body present by injecting the blood of patients into a few men who volunteered for the purpose. This, however, was stopped, and we were reduced to microscopic examination, which we felt confident would yield results. This hope was disappointed, and though many pathologists found bodies that they thought were the cause of the fever, they were followed by others who showed that the suspected bodies occurred in healthy men.

One such "find" caused great excitement at the time. Our bacteriologist at St. Pol discovered, in films of the blood of these patients, bodies which were undoubtedly of the same order as the parasite of malaria. For a fortnight or more he worked night and day with his microscope, and showed beyond doubt that these bodies were frequently present. But he could not

find them when he spread the blood extremely thin, and merely dried it on the slide. It was only when he took a thicker layer, stained it with dyes, and then washed the superfluous dye away with distilled water, that they appeared. He began, therefore, to have doubts. When he proceeded further to test the blood of healthy people he was astonished to find that with the same method of preparation the same bodies occurred. This led him to suppose that they must, after all, be due to some ingredient he was using, and it was ultimately found that they were an organism which bred in the distilled water with which the films were washed.

By 1917 we knew the clinical features of the disease pretty well, but in spite of unremitting labour on the part of the pathologists, and in spite of the most varied treatment on the part of the Medical Officers, we were as far from finding the cause and as far from finding the cure as ever.

As the disease was a great scourge, the Director General appointed a small committee to investigate it, and placed part of No. 12 Stationary Hospital, which was on the hill south of St. Pol, at our disposal. Just at that time it was conveyed to us that the American pathologists, who had by this time arrived in Paris, would be glad to co-operate with us. We at once, therefore, invited them to join in the work, and as they could obtain volunteers which we were too short of men to afford, we turned over to them the experimental part of the work, while we elaborated the clinical observations. They came up to St. Pol at the end of 1917, had their laboratories and their experimental wards in the hospital compound, and lived with our officers.

I should like to say a few words, if without impertinence I may, on the good feeling and the good fellowship

which existed between us and the Americans. Of the combatant branch I know only as much as I heard from chance conversation with officers who had been helping to train a few of their Divisions in our area. They spoke in the highest terms of their willingness to learn and their eagerness to work. The chief fault that they found was that they overworked themselves to the extent of somewhat impairing their powers. But of the medical branch I can speak with knowledge. There were several American hospitals in our Bases, all our Clearing Stations had one or two of their officers, and they were serving also in our Field Ambulances and with our regiments. They came to us to learn, for they, like us, were civilians, ignorant of the conditions of warfare, and we were glad enough by their help to supplement our depleted staffs. I think I can say that I never met a man who did not like them. One of them was a great authority on the surgery of the brain, another was a famous physiologist who helped us greatly both in Flanders and in England to solve the problem of shock after severe injuries, and a third was a surgeon to whom every fact in surgery seemed to open up fresh lines for thought and for discovery. Several of them were physicians of the first rank. Such men were most stimulating company, and while I do not think that the general level of knowledge in the ordinary officer was higher than our own, I think that their best men are equipped with a wider scientific training than men in the same position in England. I believe they had expected to find us rather stiff and difficult. If so, I think they were disappointed. They were welcome everywhere, they shared our life and they shared our work, and while their special physicians and surgeons aided us greatly in advancing medicine and surgery,

their younger officers made themselves no less liked by their modesty and hard work.

It was the same with the troupe of pathologists who joined us at St. Pol. Their chief was a wise, quiet man with a dry smile, well known for his pathological discoveries, whose one care, as he said himself, was to carry out his work in such a way that it would not have to be done again. His second in command gave us to understand that to take part in the elucidation of a new disease was a greater fortune than he had ever hoped, and that he would now die a happy man. The rest of them were actuated by the same spirit. They brought with them about seventy volunteers drawn from their Medical Corps for purposes of experiment, and undertook to solve the question whether, as was suspected, the poison of the fever was conveyed by lice, which are known to spread typhus and swarm in every army.

To carry this out it was necessary to have someone who knew how to breed and manage lice, and we were able to provide an officer (for there were all kinds of men in the Army) who was in civil life a lecturer on entomology, and had during his service in the ranks turned his training to account by making a special study of this insect. He brought over from England a stock of lice which could be guaranteed never to have been in contact with trench fever, and they and their descendants were the means by which the experiments were carried out.

But besides guaranteeing the lice, the experimental patients had also to be above suspicion. It would take too long to describe the minute precautions that were taken first to prove that the volunteers had never had trench fever before, and second to insure that they did not become accidentally infected with it while they

were awaiting the experiment. They were strictly isolated, watched and examined for several days to make sure that they were free from fever or any other disease, and then bitten by lice which had previously been fed on the trench fever patients we were observing in the wards. A number of the insects which had been kept in cardboard pill-boxes and fed on a healthy man were placed on the arm of a fever patient, covered up, and retained there for a certain time. They were then returned to the box, and later placed in the same way on the arm of a healthy volunteer. The experiment was varied in a number of ways. It was found that the volunteers so bitten caught the fever, and that it could be conveyed from them to other healthy men, either by lice or by drawing some blood from a vein and injecting it into another man. But whereas the fever took but eight days to develop after injection of the blood, the incubation period after biting by lice was roughly about three weeks. The disease was thus carried on through three or four patients successively, and by March 9th we were able to report to the Director General that the disease was undoubtedly conveyed by lice.

Meanwhile another committee in England, by excellent work, had found that the fever could be conveyed by the excreta of lice, if this material was inoculated into the arm in the same way as vaccine lymph.

Later the Americans completed their work by proving, so far as the conditions permitted, that the mere bite of the louse without contamination by the excreta could convey the disease. And the English Committee completed theirs by subjecting the excreta to tests which showed that the poison was capable of resisting a temperature of 60° C. and over, and various other physical conditions. They also saw in England a series

of protracted cases, and were able to contribute a study of the chronic form of the disease which we did not see in France.

Meanwhile some excellent clinical observations on the obscurer symptoms of the disease, its definite distinction from enteric, its effect upon the blood and upon the heart, had been made by our own officers.

So far, however, we still have been unable to discover the microbe which causes the disease; yet the method by which the disease spreads was discovered, and the campaign against lice, which had languished while they were thought to be merely a discomfort, received a fresh impetus when we could show them to be the cause of a large amount of sickness. But on March 21st the German attack broke off the work at St. Pol. The Americans returned to Paris to finish their experiments without the fear of interruption, and the hospital itself had to be cleared to receive wounded. For a time we could not attend to trench fever, and when we returned to it again we found it remarkably diminished. I cannot to this day feel certain from what causes this arose. It certainly coincided with a diminution of the pest of lice. The men were, on the whole, less lousy in the summer of 1918 than they had been. Partly this may have been, and probably was, due to increased measures of destruction. More facilities were given for disinfection by steam, a greater effort was made to bathe the troops more often, and to ensure that not only their underclothing, but their khaki clothes and all their equipment was disinfected at the same time. Where these methods could not be carried out, as in the front area, many underground pits were dug in which the clothing could be disinfected by a very high dry temperature. But

I think that the movement of the troops, which was everywhere considerable, probably had a share in the change also, for they moved into fresh lines where dugouts in which the conditions were very favourable for infection had hardly time to be made. And, further, we were at the same time visited by a violent epidemic of influenza, in the midst of which it became much more difficult to distinguish cases of trench fever, and a certain number of cases no doubt escaped notice. Yet, even allowing for this, there can be no doubt that the disease abated considerably, and I think that a share in the decrease must be given to both the two former causes.

CHAPTER XIV

SHELL SHOCK

It was not surprising that the sights and sounds of this war produced many cases of nervous ailment. I can only judge by hearsay of the effect of prolonged and severe shell fire, but I cannot imagine that anything can be more terrible. I remember that a soldier, describing one of our own preliminary bombardments which only lasted five minutes, said it looked as if the earth was opening; and the son of some French friends who was a private in one of the four crack French corps and was at Douaumont in the Verdun battle told his parents that by the ninth day almost every soldier was crying. In addition to the awful and incessant noise and the ever-present danger, a shell might hurl you several yards, though without causing any severe wound; might bury you entirely under a mound of earth, with all the terror of suffocation; or might kill your comrade by your side, with the most ghastly accompaniments of shattering and mangling wounds.

We became well accustomed to shell shock. Like any other illness, it was sometimes simulated by those who wished to get out of the line. These men were, however, detected without much difficulty, and in the Clearing Stations the majority of cases were both genuine and interesting. They were of various kinds. There were some who showed a universal tremor, ceasing

during sleep and diminishing when the patient was alone or interested in something else, but increasing when his attention was recalled to his own case by the visit of the doctor. There were some who were tearful or dull and melancholy, and there were others who were in a state of terror and hid their heads beneath the bed-clothes. Others, again, showed loss of some physical power. Some were paralyzed in a limb, or over the whole of one side of the body; some lost their sense of touch, or perhaps some special sense, such as taste or sight or hearing. There were others who were unable to utter a word, or who had lost all memory for the event which had produced their condition, and perhaps for all that had happened for a considerable time before and after it.

These cases were all of a class which we call "functional," by which we mean that the symptoms are not dependent on any gross damage to the brain, that they may disappear, and may even disappear suddenly. They are of the class which undergo miraculous cures and make the fortune, now of a shrine, now of one of those members of my profession who live upon the unfathomable credulity of the world. Nearly all, also, of such patients betray when questioned evidence of a temperament which, either from an inborn predisposition or from adverse circumstances, is unable to meet the ordinary trials of life with the firmness of an ordinary man. I remember well a case related to me by one of the Medical Officers. The patient was the younger son of a Scotch undertaker, who was not cruel to the children, but punished them by shutting them up in a dark cupboard. Their mother sought to impress the reality of the spiritual world upon their minds by appearing in their bedroom dressed in a white sheet and uttering

groans, at which the children crawled under the bed for terror. The father retired from the business, and the elder brother, who succeeded, endeavoured to strengthen the mind of the cadet by taking him with him when he went to measure for a coffin and locking him into a room with the corpse. The boy was God-fearing and conscientious, and on the outbreak of war volunteered for service. He was unable to pass his firing tests owing to the shaking of his hands, until a sergeant kindly assisted him. He was then sent out, and eventually came up to the front. On one occasion those who had not been through a course of bombing were told to step forward, and he, with others, was sent to a bombing school. He learnt the theoretical part of the work easily, for he was diligent and intelligent, but when the time came that he held a live bomb in his hand he hurled it wildly into the air and fainted. Luckily, no one was killed. He was sent to us as unfit for the line, and was relegated to a position in the rear where he would run less danger himself, and would be less of a danger to others.

The majority of these patients were distressed at their condition, some were amused at it, most were genuinely anxious to get back to work and were rejoiced when their symptoms were relieved. In many of the slighter cases nothing more was needed than rest, good food, and encouragement. They were told that they would soon be all right again, and just as men recover from other frights they recovered from this. Some insisted that they had not been in the least afraid, but that their condition was due to some physical cause which they could not explain. The only way to cure such men was to convince them by quiet reasoning that they really had been frightened out of their wits, and then to point

out to them that everyone was horribly afraid, but that brave men did not give way under the stress, and that now they realized the true state of the case they must resolve to control themselves and play their part with the others. Many went back with this determination. Some succeeded, and even won decorations for bravery, but probably the greater part eventually broke down again. It was impossible in the field to follow individuals; it is possible that Records may ultimately be able to trace them for us.

Cases with loss of speech could usually be cured by electricity or by an anæsthetic. If the latter was employed, the patients were told that it would cure them; they were asked questions when they were slightly unconscious, and they woke up talking. There were once two such patients in a ward. They were told what would happen, and one of them was taken away to be anæsthetized. He came back to the ward talking, whereupon the second man, who had been awaiting the issue, slapped him on the back, and, in the excitement of the moment, said, "Ch-ch-cheer up!" and forthwith spoke himself.

In other cases, and especially in cases with loss of memory, hypnotism was substituted for anæsthesia. Under hypnotism the man who while conscious had forgotten all about his accident would give a complete account of it. He was then told that when he woke up he would remember all about it, and everything else he had forgotten, and he did. In such cases, although we can hardly explain or even imagine the process, there is a complete gap in the conscious memory. One may almost think of it as broken like a bone. Whatever view we take of personality, it is indisputable that memory is essential to it. A man who could not

remember any of his thoughts or actions would have no continuity of life. Oneself is the being that has lived in such places, has met such people, has done or said such things. Take away all memory even down to what was done an hour ago, and you deprive a man of all that he can call himself. We have most of us read of cases of "dual personality," either in fiction, such as Stevenson's story of Jekyll and Hyde, or in medical treatises. Some of us have seen them. They are cases of a broken memory, of which the two halves, each becoming in some strange way continuous with itself, though discontinuous with the other half, produce two different personalities or selves. If they could be combined again, the man would be a single self once more.

When some great shock thus breaks the memory the man runs a risk of becoming a double personality. The first object, therefore, which the Medical Officer who employs hypnotism has in his mind is to recall the memory of the shock, which is usually easy, and then to retain it for the patient's conscious state by telling him that when he wakes up he will remember it, which in fact he under those conditions does. This, of course, provides him with some very frightening thoughts, and it may be thought that the patient is none the better for having them. But here we meet with the second object of the hypnotist, the abolition of a painful or terrible memory buried in unconsciousness, or, as it is commonly called, subconsciousness.

The experience of those who have had large dealings with morbid minds has led to the conclusion that in many cases the mental state is due to the repression of natural emotion. We recognize this in daily life. It is a common thing to say that a person strained by some great grief would be the better for a good cry, and we

all know the golfer who thinks it is "better to smash your damned club than to lose your damned temper." These are instances of the good effect of giving expression to overcharged emotion. If I recollect my old studies aright, Aristotle thought that the benefit of tragedy was to provide an outlet for the emotions of the spectator. But these are conditions in which the emotion is of recent origin and, so to say, on the surface of life. Doctors have extended the rule to include past emotions long buried and forgotten. They have found that from certain patients there can be recovered, under hypnotism, an account of some great shock or perhaps of some shameful action or habit which, though almost forgotten, has served to give a permanent twist to the mind. No doubt enthusiasts, by making too much of this, and also by laying far too much stress on the sexual emotions to the exclusion of others, have in many cases done more harm than good by their attempts. But there is a truth in it, and in such cases as these of sudden terror so great as to break the memory and be buried in subconsciousness it might fairly be supposed a salutary measure to recover the memory and enable the man to face it openly. Of course, such a patient, with the recovered memory, recovered in large part also his first terrors; but however distressing at the first, we know that fear, grief, and all other emotions fade in time. It is only when they are "beneath the surface" that they retain their strength undisturbed by the innumerable other emotions of daily life. Natural sorrow is conscious, and when a man has to catch a train his mind is for the moment set on that and forgets his sorrow. Repeat such little interests a million times a day, and he has so often forgotten it that it begins to return less vividly. But hidden emotions are "below

consciousness," and the waves of time play over their heads without wearing them away. Hypnotism brings them to the surface and exposes them to the natural attrition of daily life.

The most difficult cases were the deaf, for in order to cure them of their deafness the suggestion that they would recover had to be made through the eye by writing a statement to that effect. It is indeed curious to reflect how much we have substituted the eye for the ear. Nowadays everything must be seen to be believed. We read textbooks in preference to hearing lectures, and novels instead of listening to sermons, while every piece of scientific instruction is reduced to the form of diagrams or illustrated with pictures in order to impress it on the mind. This is true of all branches of thought that appeal especially to the intellect. But when we turn to the more emotional side of thought, everyone will acknowledge that the spoken word in the mouth of one who perfects its use is the most powerful of all stimulants, though not, perhaps, the most lasting, and in the deaf cases it was a great disadvantage to the Medical Officer that he had only the weak power of the pen wherewith to approach his patient.

These cases were early placed under the care of special physicians, who developed great skill in dealing with them, and cured the majority in a comparatively short time. Some of them, as I have said, used hypnotism, but the greater number did not, and the immediate results were not very different. Probably in most cases the loss of memory was for so few events and for such a short time that, as often happens after a fall in the hunting field or other civil accident, the period could be dropped out without inconvenience. But the general

opinion both here and in Germany, where they had very large numbers of such cases, was that much more depended upon the physician—that is, after all, upon the power to suggest—than upon any method of treatment that he happened to employ.

On the other hand, if these patients could not be quickly cured, it was very difficult to cure them at all. Some of the obstinate cases may have had real injury to the brain, for we know that an extreme and sudden rise of atmospheric pressure such as occurs near an explosion may produce minute hæmorrhage in the brain matter. But the most part were cases in which ideas of terror obtained such a hold upon the mind as to produce an obsession from which the patient could not shake himself free. Hundreds of such cases came back to England, and were treated in special hospitals. They need special skill and special care, which they cannot get in ordinary places. It is the worst policy to place them with ordinary patients, in the hope that the latter will cheer them up.

There was great difficulty over the question of their title to compensation. At one time almost all cases sent in as shell shock were allowed to reckon the condition as a wound, and even to wear a wound stripe. But the number of slight cases became so great that the privilege was soon restricted to the severer forms. Then it was ordered that the circumstances should be guaranteed by the C.O. of the battalion, but C.O.'s varied greatly in the care with which they certified their cases. Some certified every case, while others made real inquiry and certified few. At the best it necessarily gave an advantage to men who were of a weak spirit, while those who were of firmer minds endured the same trials without acknowledgment.

Officers were less subject, I think, to overwhelming fear than were the men. There were some cases of this kind among them; but, though I have no statistics, I should not say that the proportion was as 1 to 30, which is the proportion of officers to men in a Division. They were, however, much more open to the effects of worry, such as sleeplessness, fatigue, and dyspepsia. The difference is probably to be explained, as a good authority has explained it, by the difference of training in early life, which gives an officer more self-restraint, and the difference in military duty, which gives him more responsibility.

The real wonder is not that so many men gave way to fear, but that the great majority held out. There is no doubt that the conditions of modern life have made us much more sensitive than our fathers, while the circumstances of war are far more awful than they ever were before. I had always felt that modern warfare would be a terrible strain to modern men. But I had not appreciated that civilization, while increasing our sensibility to the emotions, was all the while also increasing our power to control them. Physiologists will understand what I mean when I say that the process of nervous evolution lies almost more in the development of inhibition than in development of sensory or motor power, while laymen will realize that self-restraint is the mark of the civilized man. I have often reflected how much we owe to the prohibition of duelling. We no longer insult each other because for an insult there is no redress. It is significant that the greatest master of manners was the man who stamped out the custom of fatal duels, which in the preceding reigns was a serious danger to France. Modern French duelling is rather a skilful and regulated sport than serious war, and we are unjust

in our judgment of it, because we do not recognize that view.

At any rate, it is certain that there is no loss of bravery in modern life. The bravery shown in this war has exceeded all belief of what was possible to man.

CHAPTER XV

THE ADVANCE OF MEDICINE IN THE WAR

THE war, which might have been a great hindrance to scientific work in medicine, had the opposite effect. There arose a large number of problems to solve, and the need introduced a system of co-operation among our scientific men which had been lacking in England hitherto. The first effort was concerned with the making of drugs. Many had been entirely imported from Germany, and we found ourselves short of some that were much needed. Thereupon the Royal Society drew up a scheme for a series of investigations into the processes of their manufacture, which we did not know, and distributed it among the University laboratories. One took one part, one took another, until ultimately we not only discovered how to make the drugs, but also how to make them at less than the old import price.

The same system was employed in the elaborate work on gas-poisoning, on surgical shock, and on the questions connected with flying.

In gas-poisoning the Committee of ten persons appointed by the Director General established the exact effects of phosgene on the different organs as they could be seen by the naked eye and through the microscope, together with the changes in the blood cells, the reaction of the blood, the affections of respiration and of circulation, and the meaning of certain persistent symp-

toms, such as palpitation and nocturnal attacks of dyspnoea. Alongside of this work they carried out experiments on the treatment of the various stages from the earliest to the latest, and Dr. Haldane perfected the apparatus for giving oxygen which with us in France went by his name. It consists of a reducing valve which allows the gas to escape at a low pressure, and distributing valves which, when connected with flexible tubes and pneumatic rubber face-masks, enable the cylinder to supply four patients at once with oxygen, saving all waste of the gas, while giving to each man the exact amount he needs.

When mustard gas (dichlorethyl sulphide) came into use, similar investigations were carried out, as well as others to ensure the safety of those employed in producing it.

Surgical shock had already before the war been the subject of special study by American surgeons, and was taken up afresh when they came out to join us in 1917. In this case the Medical Research Committee took the lead, and invited ten experts to assist in its investigation. It was already known that the volume of the blood in the arteries was diminished in shock, and that transfusion—that is, the injection of fresh blood from a healthy man into the vein of the patient—could restore the circulation. Incidentally the wonderful fact had also been discovered that there are four kinds of human blood, though this division is not according to race or colour or any known classification, and that one man's blood may be another man's poison, so that transfusion requires care in the selection of a donor of blood. Now it was discovered that a solution of gum would also restore the circulation, though by common consent of surgeons in France its power was not quite so great.

It had been noticed in France that the blood of these shock patients was not so alkaline as the natural, and the injection of alkali had been recommended to cure shock. This point was examined, and it was found that while the fact was correct, its significance was doubtful, and the remedy of little effect to cure the condition. But it was found incidentally that it was sovereign for the distressing vomiting from which these cases often suffer, and also for the same symptom when it is caused by chloroform.

Ultimately the conclusion was reached that shock might be produced by at least three causes—actual loss of blood from hæmorrhage, virtual loss of blood by the withdrawal into the capillaries of a large body of blood which would usually be circulating—though the reason is yet unknown—and finally, as had been previously shown, by a poison derived from damaged muscle, such as existed in abundance in all wounds.

In treatment the importance of rest and warmth, which had been our chief means till then, was not diminished, but the surgeon was provided with one or two other means to be employed with them. The donation of blood by the healthy to the sick became common, and none the less that it entitled the donor to three weeks of leave. At first only fresh blood was used, but it was soon discovered that it could be preserved, and the hospitals could then take the donor's blood and send him down to the Base, while the blood was preserved till wanted. The method was pushed far to the front. Both blood and gum were taken up to the Main, and sometimes even to the Advanced Dressing Station.

An interesting example occurred of a contradiction given by one set of experimenters to the results of another

party. This often happens between two experimenters who may be of different countries, or if of the same may be on indifferent terms. On such occasions the usual consequence is a wordy warfare which lasts a long time and is seldom settled. But in this case the two parties met, talked it over, and found that the difference was explained by the use of a particular anæsthetic which had not till then appeared of any importance.

We have hitherto known by the name of mountain sickness a group of symptoms which occur in climbers at great heights. These were found commonly in flying men also. They are known to depend on deficiency of oxygen owing to the rarefaction of the atmosphere. The Medical Committee of the Air Force, together with the Medical Research Committee, appointed nine men of science to work on the problem. Tests were invented to determine the capacity of the lungs, and on comparison of those fliers who suffered from the symptoms and those who did not, the difference was clearly related to the breathing powers. In consequence a certain standard was adopted, which candidates for commissions were required to pass, and methods were invented to supply oxygen in aeroplanes. The scientific men tell amusing stories of the ignorance shown by the military element of physiological laws, and of their flat refusal to believe that the examination of the blood could throw any light on vomiting in the air.

Beside the symptoms of oxygen want, flying men suffer also, especially after any mishap, from nervous breakdown, and accordingly regular periods of rest were recommended for those flying at the front, and tests were set up to eliminate the neurotic candidates. Further investigations which promise to be of great

interest are now being made on the sense of stability and balance in the air.

Side by side with these researches, which may be classed as in the main physiological, others more strictly pathological have been carried out. Dysentery has always been a scourge of armies. There was a great deal of it in Mesopotamia and Gallipoli, and a certain amount in France. It is of two kinds—the one caused by a low organism called “*amœba*,” the other due to various kinds of bacilli. The symptoms of the two are superficially the same in that both cause diarrhœa, but their course and results are different. It was first determined with immense difficulty what proportion of dysentery was amœbic, how long the parasite remained in the intestine, and what was the effect of treatment by emetin. Many ways of giving the drug were tried, a new chemical compound, emetin bismuth iodide, was invented, and various capsules and coverings of the drug were used to prevent the emetic effect. At length a standard method was adopted which is a great improvement on anything before known.

The bacillary group was also investigated, and elaborate statistics made of the frequency of the various infective organisms. A report is now ready which will form the standard classification of this very difficult group of bacilli. Classification is the preliminary step to the making of antitoxin, and we in France found that specific antitoxin was of value in the treatment of these cases.

The troops suffered from an acute form of kidney disease in sufficient numbers to be serious from the point of view of the individual, though to the Army the loss was very small. The Director General set up a Committee which made some excellent clinical observations,

did some good biochemical work, and also made the most extensive and elaborate investigation that has ever taken place on the incidence of albuminuria in presumably healthy people.

On the surgical side the French had made good progress in the detection and classification of the various organisms which produced gas gangrene, and English officers have co-operated with them in this, and with Americans in the production of an antitoxin.

I have already described the progress made in enteric fever, trench fever, and cerebro-spinal fever.

It is impossible to close these paragraphs without a word on the Medical Research Committee. It was in the first instance formed and endowed by Mr. Lloyd George in connection with his Insurance Act to advance by research the health of the nation. When the war broke out it rightly decided that the health of the Army was an important part of the health of the nation, and opened its resources to problems which arose in the war. It paid a large number of scientific men for work on special subjects which I have already mentioned, and it furnished us abroad with many instruments of research which we should not have obtained from the Army authorities. It published a very large number of most opportune and instructive reports, and drew up statistics of special forms of injury to illustrate the effects of treatment. The whole enormous mass of medical and surgical records were turned over to it, and a large area in the newer part of the British Museum devoted to their compilation and indexing. But, above all, it has made itself a centre of inspiration and guidance to pathology throughout the country. It has not been merely one more pathological institute rivalling others already existing, and content with its own work and

interests. It has not followed one school of pathology, or one line of thought, nor assisted only those who used a certain shibboleth. It has not confined its attention to one group of diseases, or even to a few. It has been quick to recognize the problems which needed solution, and ready to help forward any one of them, whatever the nature of the task. It has collected for these purposes scientific men and women from all Universities and schools of pathology or physiology, and it has thereby set a fashion and a standard of combination in scientific effort which had not till then existed in England. It has played a great part and has conferred great benefits upon the country.

The establishment of the Medical Research Committee was a momentous event, for it was the first official recognition that research and discovery were of national interest and importance. It has been followed by similar establishments in Agriculture and one or two other Departments, and it may be hoped that the system will be extended. It is worthy of note that neither of the two official parties moved a finger in this direction. What has been accomplished we owe to the insight of a single individual, Mr. Lloyd George.

This brief account of medical scientific work during the war, though by no means exhaustive, is sufficient to show that England has done her fair share. It is quite safe to say that the German output does not compare with it for volume or for value. The enemy has learnt more from us than we from him. This will not surprise any of us in England. English physiology has taken the lead for years, and English neurology has only been rivalled by that of the French. Our pathology, too, has in the last twenty years come into the front rank. We are deficient in the arts of publication and

of self-advertisement, and we have not had the endowments which have created the excellent professional laboratories and the abundant staff of Germany. We have been lacking too, in what may be called experimental medicine. When in the sixteenth century science arose afresh, medicine employed at first the method of observation, and anatomy, which is not an experimental science, led the way. But in the next century Harvey made his great discovery of the circulation of the blood by a long-continued series of experiments, and thus introduced the method which is the most essential for advance. In the eighteenth century Hunter used it in surgery, and it was thus firmly established in England. But of late, though Lister had revolutionized surgery by its means, English physicians had, with few exceptions, confined themselves to clinical observation. They had been immersed in practice or in the routine teaching which was essential to obtain it, and had not kept in touch with the wider work of science or with scientific methods. They had been content, like the rest of England, to take results when they were established by others, and had neglected to invent and experiment themselves. It was not entirely their fault, for men cannot live by research, and there were no endowments to support those who were willing, and indeed anxious, to engage in it. It was supposed that because Darwin and others worked and discovered at their own expense, there was something wrong in the support of discovery by public funds.

We recognize now that that is a mistaken policy. My profession has long been anxious for such work to be subsidized, but until Lord Haldane's report on the University of London appeared we might as well

have asked for the moon. That report gave us our opportunity, and we are now asking the Treasury to help us to create positions for men who will work for the advance of medicine and not for their own fortune, and by their greater knowledge of science in general and of the medical sciences in particular will be able to bring the facts that they observe under wider laws, to establish connections and relations yet unseen, and even in common things—indeed, perhaps especially in common things—to inspire into their pupils a deeper interest and a clearer sight. This is the task that we set before a Professor of Medicine, and now is the first time that the State has awakened to the fact, long recognized in every country but our own, that education is an investment that invariably pays, but that its expenses are far too great to be defrayed by the student alone.

If once we learn that lesson I have no fear of the result. We have a greater power of invention than most other races have, and we have much more appreciation of the work of others. There will not be in our laboratories the dictatorial organization which has been the bane of Germany, and there will in consequence be greater freedom for, and greater encouragement of, the younger men. We can in my estimation make a finer thing of the professorial system than has been made by others, if—and it all depends upon this—if we are allowed the means.

Out in France we tried to contribute to the improvement of our art by producing a little volume on the nature and treatment of the diseases and injuries of war. It was first issued in 1916, and revised and reissued in 1918. We who helped to write it are not perhaps

the best persons to criticize it, but I can at least express my admiration for much the greater part of it which was written by others. It struck me as equally excellent in its clear statement of the facts observed and in its recommendation of the practice to be adopted.

CHAPTER XVI

THE PLAIN OF FLANDERS

ST. OMER, in which General Headquarters were until April, 1916, is an old-fashioned town lying on the northern edge of the chalk hills and on the southern borders of the great plain of Flanders. It is occupied by three classes, the noblesse, the garrison, and the bourgeoisie, and, as in our own cathedral towns, none of these consort with the others. The most exciting entertainment is a dinner to meet the Dean, and it is said to be the dullest garrison town in France. But a year or so before the war there was a little outbreak of scandals in high life which made the place quite lively for a time.

A traveller going west to Calais or south to Amiens enters at once upon a rolling hill country, like our South Downs. Going north or east, he passes through an amphibious suburb, which consists of small houses built on the banks of canals or dykes, and ends in a tract of market-gardens of black earth intersected by waterways. Each house has its punt at the foot of the steps, which carries the people to their work and comes back laden with magnificent vegetables. I saw, one day, a notice of 100,000 leeks to be sold by auction. Children play in the punts and fish from them in the weedy, dirty water. I suppose that they learn caution and that their mothers are accustomed to it.

This marsh spreads from St. Omer the whole way to the sea at Gravelines. It was originally a large estuary, and even in historic times the Norsemen sailed up and burnt St. Omer. But a very small river was big enough for them. One Sunday, looking for a lake that we had heard of, we walked through an osier hedge and found ourselves face to face with a pretty lady. We were clearly trespassing, but she was very affable, introduced us to a husband, who was mending a motor-boat, and asked us to have tea. We could see no sign of a house, but a few yards through the osier patch brought us to a roof hardly above the ground. We went down some steps, and found ourselves in a pleasant little five-roomed house built of cement and sunk underground and below the water-level. It was a shooting lodge, the owner of which was a manufacturer from Lille, and had built it thus to avoid scaring the duck. Probably his ancestors had fled into the same marsh to escape from Julius Cæsar as he to escape the Kaiser.

In the winter this plain is the dreariest piece of country I have ever seen. It is sopping wet. After rain the water stands in every furrow and hollow. There is no beauty in the muddy plough, and the sameness is most depressing. I shall not forget the extreme pleasure the first spring flowers gave me. When they began there was little reason to complain. The woods, with which the country is sprinkled, were carpeted with wood-anemones, and there were in a few places patches of primroses. Much more common was a large primrose-coloured polyanthus, or oxlip. Later came the marsh-marigolds, which in some meadows made a sheet of gold, and grew all through the ditches. Almost as showy were the dandelions. I never saw them grow so in England, and one day walked a couple of hundred

yards off the road to see what the blaze of colour was. Then came the cuckoo-flower and the champions, and later the dirty dykes were full of white and yellow water-lilies. Near Aire and Merville there were many water-violets (*Hottonia*), and in July and August the meadow-sweet and the purple loose-strife were very fine. Willow-herb was fairly common, but I did not see there a single plant of our beautiful rosebay.

The most lovely sight of all was on the hills. One day, when riding, I came upon a patch of land which was carrying a very scanty crop of wheat, but a magnificent crop of red poppies, corn-flowers, and corn-cockle. For about a furlong it was a mass of blue and red, tinted with the purple of the corn-cockle. I have never seen, even on Swiss hills, such a blaze of colour.

Birds are scarcer than with us; in winter there were few but crows, both black and grey, and magpies. The grey crows disappear in March. I did not see a single green plover. With the spring came the migrants. There were many nightingales in the little "jardin public," and every morning I heard from my room a woodpecker there.

I saw several roe in the woods and there are also wild pig. Rabbits are very rare, and I missed them greatly.

In the chalk hills are one or two pretty streams. I did not find them out till too late for good fishing, but it was a pleasant change on a Saturday afternoon to walk along them and throw a fly. We found a pretty little country inn, where we used to dine, and drive back in the dark. I did not know till then how far you could see a cat's eyes at night-time.

The French are good fishers and keen shots. The local talent, even the boys, could catch trout better than I, and they throw a fly very well. They fish down

stream as a rule. The stream that I frequented was manned almost as closely as the trenches. I was not very successful, for it was my first introduction to the dry fly; but an hour or two by the side of a chalk stream is always delightful, whether you catch fish or not. The yellow mimulus grew in profusion by the riverside. From October to April is the close season for trout, and I was told that then even ducks and geese were forbidden to go on the streams, but apparently the law was not known to the birds themselves. Most of the fishing is preserved. The shootings are commonly let to syndicates. There was no shooting by Frenchmen in the first winter, for, as a member of a shoot said, no one wanted to shoot when his friends were away, and also it was forbidden by law. Some of our officers did a little poaching. I remember a Subaltern coming in one evening very wet, and not very cheerful. He had been shooting with his General. Someone asked how the General had managed the shoot. "Oh, very like a General!" was the reply. It did not sound like a compliment, but it may have been. One day a soldier came into hospital with a number of little wounds in his legs. It was thought he had been peppered by pebbles from the bursting of a shell, but he said no, and after some pressing told us the story. "You see, sir, it was this way. My mate see'd a pheasant, and he says, 'We'll have that bird.' So he takes out a cartridge, and cuts up the bullet into little bits, and puts them in on top of the rest of it. And then, sir, he hit me." There is nothing a soldier will not do.

Two soldiers came in one day to a Field Ambulance with a few wounds. As there was no fighting there, they were asked how they were wounded. It turned out that three of them had gone for a walk, and had

amused themselves with picking up any "dud" shells they could find, and throwing them down again to see what would happen. At last something did happen. The shell exploded, blew one of them to bits, and wounded the other two.

A French sportsman told me that when shooting begins the party always walk the first half of the day in line, but after that separate and shoot each for himself. He was very proud of his *chiens d'arrêt*, which were Gordon setters, trained (*dressés*) in England, and was eloquent on the way they worked. Roe they hunt with dogs, and shoot when at bay. Pig they drive, and shoot with ball.

The woods are full of box-traps for vermin (*bêtes puantes*), weazel, stoat, and polecat. In the paths you come upon two lines of little stakes a few inches high, converging to each end of the trap, which is a double chamber with a floor that springs up like a mouse-trap when the bait is taken.

Pheasants are plentiful in the woods, and partridges on the hills. There were many big coveys.

The land is intersected by canals, most of which are made out of rivers. The barges are very large, and are hauled by two horses or by two or three persons, usually women. The men steer, and the freeboard at the locks is not more than six inches each side, if as much. At Arques there is an elevator lock with about forty feet of fall. A pair of enormous tanks, able to take a barge, are hung in a cage of girders. As one goes down the other rises. A little lower down they siphon a stream under the canal, bring it up in a siding, and then let it through sluices. In this way they can use it either to refill the canal when too empty, or to empty it when too full.

The flat plain is covered with villages, each of which is shaded by trees and surrounded by pastures with hedgerows. The château of the place is thickly enclosed with trees, for the French love shade, and need it much more than we. It usually stands a long way back from the road at the end of an avenue. There are large woods scattered over the country, but the remainder is a vast arable plain without hedge or tree, covered with wheat, oats, barley, beans, potatoes, and beetroot. The latter looks like mangold wurzel, and the same name, *betterave*, applies to both. There were hardly any swedes or turnips. The land is for the most part light, so that it can be easily ploughed with one horse; but the water-level, even in the summer, is very near the surface. The crops reach to the very edge of the little ditch that lies between them and the road, and on the land itself there is no interval between one crop and another. There is not a foot wasted throughout the great expanse. Our countryside has beauties of its own, but there is a grandeur about these unbroken miles of crops that we do not know.

As in all alluvial plains, the land is extremely fertile and works easily. There is hardly a stone to be seen in it. A French interpreter told me that good arable land in France is worth on a rough average about 6,000 francs the hectare (£100 an acre), grass land about 9,000 francs, and the market-gardens about St. Omer 15,000 francs.

They manure more thickly than we, though the manure is not so good as ours, and in the spring scatter artificial manure largely also. They hoe and weed till the crops are waist high, and use, besides ordinary hoes, a small share on a single wheel which is set just below the surface, and is worked by repeated shoves. It looks

very hard work. For wide rows, like beans, there are two or three shares.

The holdings vary much in size. One farm I know is 750 acres; another is 27 acres; and others I saw being ploughed with a single mule or even a donkey, which must mean a very small holding. If you ask a peasant how big a farm is, he will say it has so many horses. One large farm had sixteen or more. The land is commonly owned by the farmer, but owners often hire other land in addition to their own.

The homesteads are very large and the buildings picturesque; the barns have great tiled roofs and fine timber. The large 750 acre farm had a forge for shoeing and ironwork; a wheelwright's shop, where all the carts were made; a motor engine for cutting the food; and small tramways and trollies for carrying the fodder to the byres. The whole was lit by electricity. This farm employed sixty hands, but was sold because, at the present rate of wages, three francs a day, it was not profitable. In the summer the wages were nearly double that.

On another I counted a row of forty people, chiefly women, hoeing day after day.

The twenty-seven acre farm had a good horse, half a dozen cows, a waggon and a cart. The farmer's wife churned her own milk and kept pigs, poultry, and rabbits. Their two sons were prisoners, and she one day showed me photos of them taken in the prisoners' camp in Germany. The boys looked very well, and their uniform tidy. She told me they had been employed harvesting, had been well treated by the farm people and well fed, and had had beer to drink, which is their native tippale, and was no doubt a great consolation to them.

The same day I was taken to see an old weaver, eighty-

two years old and toothless, which, with the addition of a patois, made him difficult to understand; but he was as merry as a grig, and worked away at his handloom all day. He had been in the Crimea. He also taught me how to make a weaver's knot.

The churning is sometimes done by a wheel outside the house, worked by a dog, and the threshing is often done by a horse treadmill. The dog can stop when he likes, but the horse cannot, and it is, I believe, very hard work. They still use the flail here and there. An old fellow who was using one declared that it spoilt the straw much less than a machine.

The larger farmers cut with machines, always American or Canadian, and there are a good many reapers and binders in use. But the smaller people cut with tools that we do not use. They hold in the right hand a short scythe (*faucille*) with which they chop the stalks and in the left a hook with which they gather them together into bundles, which the women bind. It is a long job, but they can cut closer with this, they say, than with a reaper.

They roughed up the land directly after clearing the corn, and even between the lines of shocks while they were still on the ground. I believe the Government in the autumn of 1914 ordered as much corn as possible to be sown. There was much less beetroot on the ground in 1915 than the winter before.

The beet is a great crop here, and there are sugar and alcohol factories everywhere. The refuse runs into tanks, where it smells abominably; but the French nose is less dainty than the English, and wealthy manufacturers live happy in the smell of their factories. The pulp is used for feeding cattle. It has very little nourishment left in it, but the farmers store it in what we call

pies, heaps half sunk below the level and covered with earth, or in silos, until it solidifies and cuts like a cheese. I saw silos which were troughs about six feet deep, lined with brick and drained at the bottom. The owner told me he had the pattern from Magdeburg. This stuff is mixed with the other fodder, mainly to increase the bulk, and cattle are fond of it.

In the winter the cattle are in the byres, but they are turned out in the spring. The milk sold in St. Omer was brought in glass litre bottles, and several milk carts advertised *lait hygiénique* or *lait tuberculiné*.

One day in the spring, an English General went round to inspect some of his command who were billeted in a big farm. He found one of his men in possession of a big stick, which he had taken from the farm labourer. The soldier showed the General a couple of young beasts which had been very brutally knocked about. Their heads were tied to a foreleg, and the farm hand had then deliberately set to work to beat them on the head. The farmer's wife, who was a pleasant little woman and well educated, said that it was customary to treat them so when sending them to the butcher, in order to prevent them from being dangerous. They are fatted under cover, and are taken out for the first time when they are going to be killed. It is an exception, for the people are kind to animals as a rule.

Sheep are no part of the ordinary stock of a farm. They are a lean and nomad race, wandering over the country with their owner, browsing on fallows, commons, and roadsides. The shepherd wears a very large sheepskin coat and a wide-brimmed hat. He carries a long staff, against which he usually leans. He has with him three sharp-nosed, prick-eared dogs,

like small wolves, but usually short-tailed, and a fourth on a chain. The dogs do not sit or lie, but run continually, like curst spirits, up and down the edges of the fallow on which the sheep are, to keep them from the neighbouring crop. The sheep are so accustomed to pack that even when they are turned into a field they remain in a mass, each eating behind the other and, judging by appearances, eating very little. A shepherd to whom I talked told me his flock was 103 in number, that he usually took them home at night to a little farm he had, and that the pasturage was free. His wife and son worked the farm, and, as he did not bring the sheep out till eleven, he was able to do some work himself also. I fancy he thought the life of contemplation was the better part. Some of the rams come from England. We used to shun *gigot haricots*, which was served about twice a week at our very inferior inn. Worse mutton I never tasted. "The hungry sheep look up and are not fed" was always in my mind when I saw a flock by the roadside.

They have a good stamp of farm-horse hereabouts. He is the horse who appears in pictures of battles or processions in the fifteenth and sixteenth centuries. He has a good head, with a small muzzle and a large eye, and carries it well; high withers, a short back, and rounded quarters. The legs are clean and longer than those of our cart-horses. He is spirited, but gentle. I have seen plenty of boys of six or seven driving or leading them. If you put a knight in armour on his back he would be the old war-horse of the days of chivalry. Writers often mention Flanders mares. But the mare was never ridden by a knight, and one part of the ceremony of degrading a knight who had disgraced his order was to mount him on a mare. These horses

work very hard, and are well treated. The carts and waggons are primitive. They have no shafts, and the horse is a long way from his work. The carts are often three-wheeled. The carter holds a single rope rein, which is fastened to the middle of a bridle. He cannot, therefore, guide the horse by pulling one rein or the other. But the horses are trained to signal. Several short jerks turn him to the off, a single pull turns him to the near side. This, at least, is what ought to happen. What actually happens is that when the driver begins to jab at his mouth, the horse throws up his head, and for a time will do nothing. If he is trotting he stops. It takes about five minutes to get a horse to his own side enough to let a car get by. The natural result is that not a horse in the country has a mouth. They will allow their necks to be bent double before they will obey the rein when reins are used.

A two-wheel hooded cart is both for rich and poor the common driving vehicle. They are drawn by weedy little ponies, who look half-starved. Mules are common, and donkeys. Some of the donkeys are the smallest I ever saw. I have more than once seen an old woman ploughing with one donkey. The furrow was only three inches deep, but the ground is so rich and light that I suppose it was enough.

Last of all draught beasts comes the dog. The bakers' barrows all have a dog underneath them. I did not see any with carts such as I remember drawn by dogs in Brussels many years ago; but I often met an old man or woman seated in a little cart the size of a wheelbarrow, drawn by a dog or two. A dog is the most willing beast of burden there is. I remember long ago a witty old Frenchman declaiming against the unemployment of dogs on the ground that it deprived the dogs

of a great pleasure. "Look at the delight of the dog," he said, "when you give him something to do, your stick or a basket to carry. Look at the pleasure which sheep-dogs and sporting dogs take in their work. Now the dog has become a melancholy animal, and melancholy lays him open to still more serious nervous ailments. *Croyez-moi, cher Monsieur, le désœuvrement tient à la rage.*" But I would not be some of these dogs for a good deal. They are sometimes very badly treated.

Every little rise has a group of houses or a village on it, eager to keep its feet dry, and there are one or two sharp little hills. Cassel Hill stands, I suppose, about three hundred feet from the plain, and rises steeply. The town looks very well on it, and there is a fine church and one or two other buildings which stand out well. It is not, of course, to be compared with Jodhpur or Perugia, which are about the same size, though Perugia is much higher. But India and Italy have the most beautiful architecture in the world, and in this country we are thankful for small mercies.

There is something very pleasant about the country towns. Though the streets are narrow, there are large market-places. In St. Omer, every Saturday both the Grande Place and the small Place Victor Hugo were crowded with country people and their wares. *Volailles, œufs frais, and œufs conservés* had their allotted places in the latter, and the former was full of vegetables and stalls for cotton goods, with a corner under the Town Hall for flowers.

There are fine old houses in the towns, with large and pretty rooms; but, as with our country towns, their glory is departed.

There are some handsome old brick churches, with Romanesque arcading on the towers and decorated

Gothic elsewhere. At Bailleul, which has been burnt four several times, the church has, in addition, a Palladian portico. The interiors are not as a rule interesting. There are not the old fonts, or fine capitals, or curious little relics of antiquity which give nearly every parish church in England an interest. They have a great deal of heavy wood-carving about the pulpit and organ-loft, and the chancel is, in the larger places, often rich with marble work of the seventeenth or eighteenth century. They are hung with pictures and banners. But the Cathedral at St. Omer is a fine building both inside and out, and has many beautiful things about it. There are some curious old pavements in the side-chapels, of which I have not seen the like. The services were well attended, though chiefly by women, and at Vespers one evening they sang an *Ora pro nobis* of quite haunting beauty. I am not musician enough to know why I hate English hymns, but I do. There was a little Irish soldier in front of me who knew his way in the service, which I did not, and I wondered how he compared it with his little parish church in Connaught.

In Bailleul there is a good museum. A certain "Greffier," or Town Clerk, who died in 1859, had a passion for collecting, and when he died left his house and its contents to the town. His office brought him in contact with every inhabitant, and he bought wood-carving, furniture, delft, faïence, stoneware, china, marqueterie, pictures, lace, coins, tapestry, playing-cards, fossils, and stuffed animals—"a pretty coming-in for one man." He bequeathed money also to found a drawing-school, and Bailleul has had several Prix de Rome.

Poor Bailleul! It has been utterly destroyed since these words were written. It was a pretty little town. It

is said to have been the original home of the Balliol family; Bethune is probably connected with the Scotch family of that name, and I suppose I must have come from this part too, for there is one village called Heuringhem, and another called Eringhem, in the neighbourhood. Chaucer's Sir Topas was a native of Poperinghe, and we had a great deal of intercourse with this country when it was under the Dukes of Burgundy.

The old châteaux are pleasant white houses with slate roofs set among large trees, with a great farmyard and buildings attached to them. There is a beautiful one at Vandomme, near Fruges, of great size, built, I should think, 150 years ago. But the modern château of the wealthy paper manufacturer or distiller, of red brick, white stone, and encaustic tiles, is remarkably ugly.

Windmills are a great feature of the country. They are dotted all over it. On the hill of Cassel there are seven. Most of them are of wood, but some are circular and built of stone. I went over one of the stone mills. Except the outer wall every bit of it, hood and machinery, was of wood. Its owner told me it was 300 years old, and I was shown a wooden mill which was said to date from the fourteenth century. The miller fetches the corn, grinds it, takes a tithe for his labour, and delivers the rest to the farmer. We found that some of them were used to signal to the enemy.

The mining villages and the outskirts of the towns are squalid, mean places, full of slatterns and dirty children who are a great contrast to the people on the land.

We complain of the number of public-houses in England. But here every other house is an "estaminet." This is a word used in North France for a drink-shop, and was at once called "just a minute"

by our soldiers. I so seldom saw a drunken man that I began to think there was safety in numbers. But a French friend who knew England well told me that drinking was worse here than with us, and the absence of drunkenness now was due to the absence of men. Anyone can set up a drink-shop, and, if he is not forbidden by the authorities within three months, he obtains a permanent right. In the mining villages the estaminet-keeper is often a discharged and discontented miner, who gets the working-men into his debt, keeps them there, and foments strikes. The mining population contains men of every nation, and is very rough and lawless.

The agricultural population is quite different. It is a land of plenty and of unremitting toil. The people work early and late. In harvest-time they begin about five and go on till it is dark, taking a meal out of doors in the forenoon and about five o'clock, but going home to feed themselves and the horses at mid-day. The women work as hard as the men and know as much about it. I saw many a woman ploughing with two horses, and they carried on the whole farming business while the husbands were away in the Army. The harvest was got in with astonishing speed and success, yet there was not a man on the land between the ages of eighteen and forty-five. The women did not often reap, but they bound, they shocked the corn, they loaded the carts, they helped on the stack, and they worked at the threshing. I wondered how many women in England would load a great waggon with twelve foot of corn on it, herself on the top, cord it, and then come down the cord like a boy, and drive the waggon into the farmyard. There is nothing to beat a Frenchwoman.

If we had the system of small ownership that the

French have, I would pay the price that they pay, by Protection, for a country population such as this. These people could not live under Free Trade in corn, but they are a great strength to the State.

Though the flat country is only just above the water-level, and the chalk hills should be good water-bearers, the supply of water is deficient. In summer the wells often give out, and in Boulogne during November the pressure was so low that the water did not rise to the second floor. The effect upon the sanitary appliances can be imagined. The cool and rainy summer of 1915 was a godsend to the Army on account both of the water and of the flies. The flies would have been terrible in a drought. They were bad enough as it was.

There is, I fancy, an impermeable stratum below the light alluvial upper soil. At one of the Field Ambulances they found, in digging a well, about six feet of light soil, then a very stiff clay, and then a comparatively loose layer holding a lot of water.

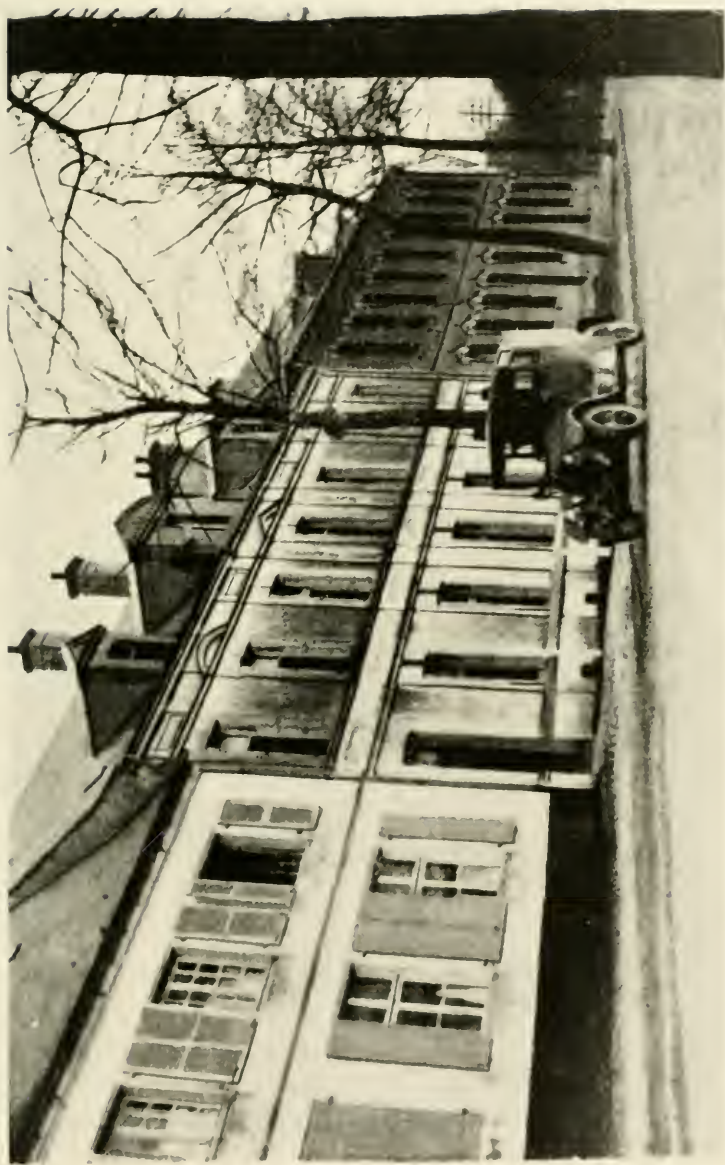
We lived a year and a half at St. Omer, and we had many interesting visitors in our little sitting-room at the inn. Admiral Bacon came out with the first 15-inch howitzer built after his own design. He was disguised as a Colonel for the emergency. Colonel Fairholme, who knows all the countries of Europe, described to us one evening the Balkan nations and their armies. Colonel Lewis, of the Lewis gun, who, like most inventors of murderous instruments, is of unusually gentle demeanour, told us of his work in Belgium and then in England. We had, too, Mr. Robert Bacon, who had been American Ambassador in Paris, and had stayed there throughout the German advance, giving every possible assistance in bringing in the wounded and taking up necessaries. He had begged to be allowed to do

some work, however unimportant, in order to show an American's sympathy with our cause, and he was attached to our Red Cross. To him and to my other American friends the first two years of neutrality were a source of grief and indignation. His recent death enables me to say without offence that he was one of the greatest gentlemen I have ever met. You could not think meanly when he was in the room. Another American of whom we saw a good deal was Mr. Theodore Marburg, who had been Minister in Brussels and had a great esteem for the King and Queen of the Belgians. He came over to be with his son who lost a leg in our Flying Corps. He was keenly interested in the project for a League of Nations, which was then in its infancy. General Surtees, too, who had shot all over Gallipoli, and knew curious stories of the Turkish capital, visited us, and so did Colonel Swinton, who was then "the Eye-Witness," and was one of the inventors of the Tanks. Natural Science was represented by the Entomological Committee, who came out to devise means to prevent the increase of flies, which are dangerous to an army, since they carry infection everywhere with them; Literature by Mr. John Buchan; and Art by Mr. S. J. Solomon, full of schemes for "camouflage," which afterwards took a very useful shape. These and many others gave us other things to think about than wounds and disease.

CHAPTER XVII

OUR HOME AT HESDIN

It is a mistake to suppose that all French inns are clean, and all French cooking good. At St. Omer we lived in one which, though the best that we could find, was alike in its table and its smells nothing less than abominable. When in the spring of 1916 G.H.Q. migrated to the south, we determined to better ourselves. The Second Echelon, to which we belonged, was to be located at Hesdin, and we drove down to prospect a little while before the move. The Mayor of Marconne, a little village just outside the town, gave us one or two addresses—I think of his political opponents—and we ultimately struck a bargain with Madame X., in whose house we lived for the next three years. It was a long white, two-storied house, fronting on the road from Hesdin to St. Pol. In front of it was a row of horse-chestnuts, and across the road a market-garden. Behind the house was its own large garden, or rather three gardens, of the old-fashioned kind, with box edging along the walks, backed by clumps of hardy flowers, behind which were a line of espalier or pyramid fruit-trees, and then the vegetables. The fruit-trees were extremely old and gnarled. St. Theresa says that her confessor, St. Juan de la Cruz, was like the roots of old trees. These fruit-trees of ours were like St. Juan de la Cruz. The garden contained two springs, two ponds, a wide water-



FRONT OF OUR HOUSE AT HENRY.

channel, a plantation of tall poplars at the farther end, and many pretty foliage trees and one or two large planes in other parts of it. Primroses and polyanthus were in full bloom when we arrived in April, and there was also a greenhouse which was Madame's delight. We had two excellent bedrooms, but our chief delight was our sitting-room, which was a large library lined on three sides with books.

Monsieur X., who was bedridden when we went there, and died that autumn, had been, like his father and grandfather, the chief lawyer of Hesdin. One member of a former generation had been an officer in the Grande Armée, and the shelves held an interesting collection of histories and memoirs of the Napoleonic period. It included Thiers' great work, which for style and composition is, I think, the best history I have ever read. It is really a great tragic trilogy of which the hero is Napoleon. In the "Revolution" the scene is set, and in inexorable sequence the Gods destroy the Monarchy for its corruption, the Gironde for its weakness, and the Montagne for its crimes. Danton is the Ajax of the piece, and then, when the country is plunged in the utter ruin which its madness has deserved, the 18th Vendémiaire breaks and Napoleon initiates a new era.

The Directoire is his period of *Wander-jahre* and apprenticeship. While the Directors are feebly governing at home, he is making his first great success in Italy and his first great failure in Egypt. Then he suddenly reappears for the 18th Brumaire, and begins as First Consul the noblest part of his life. After he has saved France from her own hands and from the hands of her enemies, he reforms her finances, develops her resources, settles her religious difficulties by the Concordat, gives

her a new and worthier peerage in the Légion d' Honneur, organizes her education, and codifies her law. Meanwhile he has passed the Alps in winter, won Marengo, forced the Treaty of Lunéville on Austria and that of Amiens on England, and the country hails him Consul for life.

To this moment sympathy is strong for Napoleon. His wonderful genius and his still more wonderful labour have been devoted to his country, and we feel that in giving him the Consul's chair for life she has only rendered him his due. Yet even at this time the symptoms of the great crime, ὕβρις, the Greek form of the unforgivable sin, when the hero, blinded by his own success, ceases to give the Gods the glory and ascribes it to himself, begin to appear in Napoleon, and almost immediately after the culmination of his triumph comes, first the angry rupture of the peace, and then, like an awful clap of thunder, the seizure of the Duc d'Enghien, the gloom of the midnight trial, ruled in Thiers' account by the dark figure of Savary, though Savary himself denies it, and the morning's tragedy. The scene closes in the wild uproar of the European Courts, while the reader recalls the innumerable murders and cruelties which they who condemn Napoleon have themselves committed, or complacently seen others commit, in the days gone by.

Lastly comes the *Götterdämmerung* of the Empire. Greater and more glorious grows the hero's fame, vaster and more splendid his victories, but all the while the seeds of ruin are being sown, the items of his guilt are being entered in the dread book; he is warned, but shuts his ears; he is threatened, but defies the Gods, until the retreat from Moscow and the long-drawn agony of the last war in Germany send him, a broken

man, to the lonely rock where the vulture will gnaw his liver.

Thiers made his history centre on Napoleon's life, and he was right, for it was the truth. On that one man and on the strength and weakness of his character rested the history of the world. Each time Napoleon loses his temper you hold your breath to watch the result upon the farthest shores of Europe; each time he meets treachery by force and force by treachery you think of the harvest of hatred and distrust that he is heaping up. Each time he forges another link in the chain that is to strangle England's commerce you feel that he is creating an instrument so great and so ill welded that it must crush him in its fall. And yet, seeing this Titan, greatest of men, beset by the duplicity of some Courts, by the cowardice of others, and by the remorseless tyranny which lay at the bottom of all, you cannot help hoping to the last that he may conquer, may conquer both himself and them, and in a fresh spirit of humility set the world free, as he alone could.

The Greek tragedians had no such hero as Napoleon. Perhaps we never in the history of the world have had such an one, or shall have such another. Mr. Hardy, in "The Dynasts," has given us a rendering of the story worthy of Æschylus; it is M. Thiers' great glory that he has succeeded by his wonderful prose in producing an effect to the full as sublime. His chorus, the passages in which he comments on the action of the play, are of great dignity, and the final passage in which he sums up the verdict is of the noblest elevation. In truth Napoleon "*était par son génie fait pour la France comme la France était fait pour lui,*" and no one can fully comprehend France or Frenchmen unless they

know the story of the greatest Frenchman, perhaps the greatest man, that ever lived.

It is common to ascribe to Napoleon a great knowledge of men. I think, on the contrary, that he was ignorant of almost all sides of human nature but the outside. He fell because he had not the least conception of politics, either internal or foreign, and he was deserted because he had no friends. But he was a great student and master of effect. No man was so beloved by an army as he, or so much applauded by a crowd. He was a simpleton in social life, but a magnificent public figure.

But there was much old history on our shelves of times before Napoleon, and many books of other kinds. The family were strong Catholics, and Monsieur X. had been a Legitimist all his life. There were therefore Bossuet and Fénelon and Chateaubriand and many minor prophets. Literature was not well represented, but the four finest books of France were there—La Fontaine, and “Gil Blas,” and Montaigne, and the beautiful “Chanson de Roland.” The books were in terrible disorder, and my first step was to arrange them on the shelves, my next to read as many as I could.

We had bargained with Madame that we should be fed. She said Marie was rather “frou-frou,” but that she thought she could persuade her. She turned out to be an excellent creature—stout, red-haired, ungainly, and rather dirty, but as honest as the day and quite a fair cook. She was getting sixty francs a month, and we, of course, made ourselves acceptable by adding a little to her wages. I can always get on with a cook, because I am of a greedy disposition, and cooks like to be appreciated.

Madame reminded me so much of my own mother that she went to my heart at once. She was a thin,

grey-haired lady of seventy-eight with brisk habits and a humorous and incisive tongue. She loved trotting about her beautiful garden and pottering in the greenhouse, but she was very unhappy over the neglect which the want of labour had brought upon it. "Quelle misère!" Marie had been with her seventeen years, and will certainly stay till one of them dies;* but, as often happens in such cases, they could neither do with each other nor without. When Madame was irritable, which was not infrequent, the scenes in the kitchen were lively, for Marie was rather "criarde" herself. Nor was the old lady very sympathetic with misfortune. Marie one day, gathering watercresses, fell into the pond and was nearly drowned. She had all the house-money in her pocket, and when she came in dripping wet she proceeded to dry the notes by putting them in the oven, which, it must be allowed, was a foolish proceeding. They were rescued, but the vials of Madame's wrath were poured upon her red head for a considerable space of time. Madame afterwards told me the whole story in the garden as she alone could tell it, and at the end she wound up, "Et ça lui a guéri son mal aux dents, la sotte."

Madame was very devout, and, in spite of having actually had eighteen children, very naïve, and one of her daughters, who was neither, and I used, I am sorry to say, to tease her unmercifully. She was one of those people whom you cannot help teasing, and she not only enjoyed it, but was quite as ready with her tongue as the two of us put together. The Bible is not with the French the standard religious book that it is with us, and they read it very little. I one day found Madame reading the story of Herodias, and she appealed to

* I had forgotten love. Marie is about to marry.

me to explain the relationship of the family. I said: "Surely you have read it often before?" "No," she said, "I never have. A long time ago I began to read the Bible, but there were things in it which scandalized me, and my confessor told me that if I felt that I had better not read it." Lives of Saints, which are usually very poor productions, and sermons or meditations take its place. Madame never could remember my Christian name, and I was "Sir Kilian" for a fortnight after she had been reading that good man's life.

She was very ill in the winter of 1918, and I feared she would die; but she recovered, and my attendance upon her in the end cemented our friendship, though it strained it a little at the time. She had been very naughty—there is no other word for it—during her illness, and I had lectured her so severely that I dared not present myself in her sitting-room when she came downstairs again. But she wrote me a charming note in her rather shaky hand, and, while maintaining that she had a perfect right if she liked to get out of bed in the middle of the night, sing hymns, and disturb the household, desired that we should resume our old terms.

When I left I went in to say good-bye, and kissed her hand, as I always did on state occasions. She said: "Sans doute en Angleterre on ne s'embrasse pas." I stoutly denied the imputation, and we kissed affectionately, after which she added: "A notre age, Général, il n'y a pas de danger, mais ça fait plaisir tout de même." She was a difficult old lady, but a dear. We are still correspondents.

There is a great deal of family pride in the provinces. Madame herself came of a very old name, and one of her great-uncles had been Governor of Artois under Louis XVI. She gave me a medal struck by him. The

Abbé Prévost, the author of "Manon Lescaut" and of the "Doyen de Killérine," was of her husband's family, but though the "Doyen de Killérine" was on the shelves, "Manon" was not, and I fancy the Abbé was not looked upon as a credit to the family, for Monsieur X. had been very rigid in his views. Near by was living with her unmarried daughter an old lady whose married son had a house in the next village. Their ancestor had been King-at-Arms to the Duke of Burgundy, and the son, who was fond of history and had published a volume of his family records, showed me an account written by this ancestor of the "Joyeuse Entrée" of Henry VI. into Paris. Their family had suffered severely in the Revolution at Arras under the cruelty of the renegade curé Lebon, and they still retained, as, indeed, do many people in the country, the feelings of horror and hatred which those years evoked. There is a great deal of prestige attaching to descent, and it counts for much in matrimonial affairs. But it has its bad side. A lady, hearing a friend of her husband's complain of poverty, asked him why he did not obtain some position. He replied: "Si on s'appelle de M. on ne travaille pas." Such men do not even go into the Army. They live by picking up a rich wife. That is not an uncommon industry in any country, but it is rarer in France than in most. On the other hand, many members of this class become professional soldiers, and some did very well in this war. The Duc de Rohan, who before his death won a name for romantic bravery, represented one of what were the three greatest families of France, and there were others like him. Yet the French were bitter about the "embusqués," and undoubtedly ascribed their position of security to the influence of either birth or fortune.

English people are always curious about marriage in France, where marriage for love is much less common and family arrangement much more common than with us. Most observers allow that there is not much difference in the results. There are plenty of unhappy marriages everywhere, and those that are happy depend much less on the love with which they start than on the good sense and good temper with which they are carried on. When a French girl comes back from the convent in which she has been educated she finds life at home so dull and so restrained that she marries quite as much to escape from it as for any other reason. A Frenchwoman's life begins with her marriage, an Englishwoman's often ends with it. Some marriages are very businesslike. The curé, knowing that one of his parishioners is rather bored at home, tells her that he knows of someone "qui fera votre affaire," or some family friend suggests that young So-and-so is eligible, or there is a distant cousin already provided. There is no question of coercion, as in the old days. In one case which I know a girl was told by her parents that three men had proposed for her, and the choice was left to her. She chose the wrong one—girls usually do—and her father felt so strongly about it that he made her sign a statement that she married against his wishes. But he did not prevent the marriage, though the result entirely justified his opinion.

The position of married women's property is not quite the same as with us. There is no such thing, they tell me, as a marriage settlement under trustees for the benefit of the children. When I explained it, my French friends thought it an excellent plan. There is a possibility of the State acting as trustee, but it seems seldom used, and I could learn nothing about it. If no other

steps are taken the husband has entire control of his wife's property. If he dies she can recover her "dot" from his estate if he leaves enough to cover it, but if he does not, she has no redress. But there is a simple safeguard which may be adopted. If a deed of "séparation de corps et de biens" is executed, the husband cannot touch the wife's property, and it remains completely under her control. This deed in no way interferes with married life, and many marriages are begun on those terms. It, however, leaves the wife open to the influence of the husband, and does not protect the interests of the children so fully as our custom.

After the husband's death the widow is entitled to half the income. There is a certain restriction in the freedom of testament. As far as I could gather the property at the time of marriage was considered a family possession, and of this the father can only leave a small proportion according to his own wish. The rest is divided equally between the children. But as I understand it, if a child, by getting his debts paid, anticipates his share, he is debited with that amount when the property is divided. If the father increases his fortune after marriage, he seems to have more testamentary freedom over the additional amount. The mother's fortune, I suppose if accruing to her after marriage, is similarly at her own disposal, and she can leave it to whom she will, or at any rate to whom she will of her children. My informants were not lawyers, so that I do not profess to give a full legal account of the case.

We hear of the patriarchal life of French families, and of several generations living together under the sway of the elders. I saw nothing of that kind, and though the family home was the natural refuge for the two daughters who had lost their own, Madame held the opinion

strongly that a married daughter should have her own establishment, and that the other was a bad plan.

French provincial life was no doubt much restricted during the war, but it struck me as much duller than our own. There was little of our out-of-door life, and no games. Nor was there the same public activity as with us. My relations in England were every one of them hard at work all the time. Some of them had hospitals in their houses, others were managing allowances for dependants, and others, again, had volunteered—I am thinking of the women—for service on the land or in one of the women's corps. None of the people I knew in the country were doing anything of the kind except one of Madame's daughters, who went every other day to do some work in a hospital. Some of them read a good deal, and they did a good deal of needlework, but their chief occupation was conversation. Of that the French never tire. It is a natural gift with them, and it is improved and cultivated to the highest pitch. They expect not only that each member of the company should contribute ideas, but even more that they should be well expressed. In consequence their talk is far better turned and more pointed than ours. It is great nonsense to say that they chatter. On the contrary, though they talk continuously, they talk well. They may be ignorant or prejudiced, and in consequence may say things that are unreasonable, but they put their points clearly and forcibly nevertheless. My friends were together all day long, yet I never knew them at a loss for conversation. My room was over their parlour; as soon as they began to assemble talking began, and I never heard it cease.

My friend in Paris, on the other hand, did a great deal of public work. She was on committees for refugees



VIEW IN OUR GARDEN AT HESPERIA

which took a great deal of time, and her letters to me were generally written when she was on night duty in a hospital. But town life is everywhere different from country life. Though St. Omer was dull, the manufacturing towns, such as Lille, were very lively and sociable, and Paris is different from all other towns and from all the rest of France.

The French are great connoisseurs in wine. Our officers used to suffer a good deal at hospitable tables from the number of different wines they had to drink. I found in the library a book called "De l'Art de Boire les Vins," and the following is a section headed

"STRATEGIE D'UN GRAND DINER."

It begins:

"Savoir boire le vin n'est donné qu'à un gourmet exercé; savoir le faire boire à ses convives n'appartient qu'à un maître de maison d'un tact exquis, et d'un goût éclairé.

"L'œil doit être tout d'abord flatté par la mise en scène de la table. L'éclat du linge blanc, de l'argenterie, et des cristaux, doit être agréablement relevé par des fleurs habilement choisies comme une combinaison d'harmonie et de ton.

"Devant chaque convive six ou sept verres doivent être rangés en bataille.

"Le grand verre ordinaire.

"Le verre à madère.

"Le verre à bordeaux.

"Le verre à bourgogne.

"Le verre à grands vins.

"Le verre à vin du Rhin.

"Le verre ou la coupe à Champagne."

Burgundy is to be at the temperature of the cellars, bordeaux at that of the dining-room, champagne *frappé*.

The order is from the more *temperés* to the more *fumeux* or more *parfumés*.

With the soup madeira or dry sherry, with the oysters, or *hors d'œuvres*, the best white wines of Graves, Barsac, Sauternes, Chablis, Meursault, or Montrachet.

“ Au premier service les grands ordinaires et bourgeois du Médoc pleins de moelleux et de corps à la robe purpurine au bouquet parfumé. Au roti les vins corsés et capiteux de St. Emilion ou de la Bourgogne. Puis enfin les grands crus de Bordeaux, de Bourgogne, et des côtes du Rhone. Aux entremets les grands vins blancs de France et le vin du Rhin. A la fin du repas champagne frappé des meilleures marques, les vins de liqueurs.

“ Le maître d'hôtel chargé de verser les vins aura soin de prononcer distinctement le nom de chaque cru proposé au convive.”

CHAPTER XVIII

EDUCATION IN FRANCE AND THE RELIGIOUS QUESTION

I DO not know how else to head this chapter, but I should explain that it is nothing but a set of notes taken from what I heard in conversation with French friends. It has no claim whatever to be an authoritative account, and it may contain many mistakes. It is, however, what I was told.

Among the Catholics the boys are usually educated at Jesuit colleges, some of which are specially for younger boys, while others take them at all ages up to eighteen. One little boy of fourteen told me of his daily life at school in Paris. They got up at 5.30 a.m. winter and summer, worked from 6.30 to 8 o'clock, and at 8 had soup, their first food. They worked again from 9 till 12, when they had dinner, consisting of soup, meat, vegetables, and 100 grammes ($3\frac{1}{2}$ ounces) of bread. They worked again from 2 till 4.30, when they again had 100 grammes of dry bread. They worked again from 5 till 7, and at 7.30 had supper of soup and 100 grammes of bread. This boy had some meat or fish at supper, for which his relations paid extra. They had no milk, butter, cheese, pudding, tea, coffee, or chocolate, and the boy looked much underfed. It must be remembered, however, that this was during the war. I wrote to a great friend of mine in Paris, the wife of a professor, in high indignation. She repudiated the story, but

Madame and all the family assured me that it was true. The boy was a grandson, and was staying with her for the holidays.

The education of a boy at a Jesuit college in the North of France costs, or cost before the war, £70 or £80 a year for board, residence, and education. There is nothing whatever of the freedom and very little of the open-air life and exercise which is the regular custom in English schools. I do not think the boys enjoy their school life. One young fellow said that he had rather serve six months more in the trenches than go back to school for three.

At the age of eighteen the boys go up for their *baccalauréat*, which is a school-leaving certificate examination held by the Universities. Lately the Government have refused to allow boys to present themselves for it from the Jesuit colleges, and have permitted only those educated at State *lycées* to go up. This rule is to a slight extent evaded, but it is a severe penalty on the colleges, as the *baccalauréat* opens the doors not only of the University, but of other careers. For instance, a boy with the *baccalauréat* gets into an Army school for officers on much easier terms than one without it.

There is nothing in France like the University life of Oxford and Cambridge, or even like the life of our newer Universities. No one goes to a University except to enter one of the learned professions, and the life is one of strenuous application, unrelieved by our open-air recreations. The only thing that in any way supplies the place of this side of the life of a young Englishman is the military service of a Frenchman. That is a very different life, and a very hard one. But it has its good points both for the boy and for the country. My friend in Paris, who belongs of course, to the University circles,

spoke to me before the war of the hardship that service was to young men who intended to follow learned careers. It stopped their work, it stupefied their minds, and it returned them to civil life less intelligent than when they left it. But during the war I wrote to her about our Compulsory Service Act, and her reply is so interesting that I quote it.

“ Ce que vous me disiez de l'Angleterre nous a vivement intéressé mon mari et moi. A l'heure actuelle tant de liens nous unissent qu'il est curieux de constater que nous nous connaissons, que nous nous comprenons si peu. Je crois qu'à la base il y a une différence totale, radicale, d'éducation et de principes, mais je suis contente pour votre pays que vous fassiez l'expérience du service obligatoire avec tout ce que cela comporte. Ici en France les esprits avancés en ont dit beaucoup de mal. Il a fallu cette guerre pour que nous comprenions qu'à la caserne beaucoup plus qu'à l'école s'était faite cette profonde union nationale que nous surprend nous-mêmes. C'est là que les classes sociales se sont unies, connues, pénétrées, brassées. Je ne crois pas que les individus y aient perdu. En tout cas la collectivité y a beaucoup gagné.

“ Je crois bien que tout cela répugne à l'esprit anglais, mais il me semble que votre peuple, vos basses classes, sans aucun contact d'aucune sorte avec les classes cultivées ont moins de chance de s'élever. La caserne fait le rapprochement forcé, et vraiment nous en voyons en ce moment les excellents résultats. C'est une sorte de fierté chez beaucoup de nos enfants que de rester simple soldat, et il a fallu dix-neuf mois de campagne, et un changement d'armes qu'ils avaient sollicité, pour qu'un de mes fils soit nommé caporal. Encore s'excuse-t-il presque.”

In other letters she told me of the excellent effect that the campaign had had upon the health of both her sons. One of them was afterwards recalled to work at the mathematical problems of some novel form of gun, and was kept in Paris, to his great annoyance, till the work was finished, when he hurried back to the front. The younger of the two, who had been in England for a year, declares that no book is fit for the trenches but Shakespeare. Certainly the war made a great many people read poetry. After all, it is the aristocracy of literature.

The mixture of classes in the French Army leads to greater freedom of intercourse between the ranks than there is with us. One of Madame's grandsons was a bombardier. He did not think it strange that he should occasionally dine at his officers' mess. He happened to be quartered in a village where was a certain General who was his next-door neighbour at home. The General told him that if he wanted a little quiet he might come into his office and smoke a cigar. He was sitting there one day when an officer came in on business. He, of course, left the room, but the officer, somewhat surprised, asked the General who he was. When he heard he was a personal friend he said: "Well, I gave him twopence yesterday for holding my horse, and told him to get a drink (*aller boire une chope*)."

We asked the young man what he did with the twopence. He said: "I had my drink, and was very glad to get it." This freedom, however, leads to some consequences which are not altogether to the advantage of the French Army, as most soldiers who have been next them will tell you.

In all armies there was a great loss of officers, and I suppose in all the difficulty of getting good officers was

very great. We had a wounded German who told us that his company commander was a hairdresser. Another, a Prussian, explaining the surrender of his battalion, said: "They put us under Bavarian officers, Bavarian Reserve officers, and of course we would not stand that."

In the French ranks there was a good deal of feeling against incompetent officers, but the stories I heard were, I daresay, exceptional, and in any case are better not repeated. Before the war a Frenchman got his commission either by going through an Army school at the beginning of his career, or by going through the ranks, getting his stripes, and then gaining entry to an Army school by passing an examination. I had been under the impression that this was a common path. But a French interpreter who had been a sergeant, told me that the examination was so hard that few except well-educated men could pass it. He himself had failed thrice, and then gave it up and became a fencing-master.

French girls of Catholic families are educated in convents, and like both the convent life and the sisters. But though the latter are devoted and kindly, the girls recognize that they have no knowledge of the world, and are poor guides for conduct. The education is again much in the hands of the Jesuits, and they interfere in details that we should think to be outside their province. A lady whom I knew was asked in confession, when a girl at school, by her *père Jésuite* how she washed herself, and was forbidden to wash in the ordinary way any part of her body except her face, neck, and hands, lest it should lead her thoughts astray. I believe the rest of the body might be washed under some kind of bathing-robe if desired. It is difficult to believe that a

man could be so stupid and so prurient as to give such orders.

In "my" family the girls as they came home from school were by their father's orders at once put through a full course of house management and cooking, under the *chef* whom they then kept. Each girl in turn went into the kitchen. She had to get up in time to prepare her parents' breakfast at 8 o'clock, and she had to help to cook the midday and evening meals. The *chef* was given a day or two of holiday in order to test the girl's progress, and she was not released until she could single-handed send in a complete dinner to the approval of her father, who, it may be added, was particular about his food, as every self-respecting Frenchman is. At the same time she was expected to do the house marketing. Her father used to give her a regular sum for the month, and she bought all that was needed in the market or at the shops. What she could save she could keep for herself. He used to tell them: "My dear, if you marry a rich man you will not need to do this work, and it will be a pleasure; if you marry a poor one, you will have to do it, and you will not feel it a burden."

He was a man much out of the common in many ways, and this training is not the general rule in France. But it strikes me as an admirable course, and more practical, though more restricted, than the Home Science that we teach in England. There are *Ecoles ménagères* in France also, but my ladies said that they were not nearly so useful as home training, and deplored the factory life just as we do, for that it took the girls away from home, so that when they came to marry they did not know how to keep their houses. In discussing girls of their own class, "Elle ne sait rien," which was a frequent

criticism, meant that a girl had not been trained in the management of a household.

I expect that the work that women have done in France during the war will greatly alter their lives after it. In Paris girls who never went into the street without their mother or a maid have been going off alone to hospitals, laboratories, and charitable work of all kinds. They who were so strictly kept have been witnessing the crudest facts of human misery. They will never, I feel sure, return to their former state, and their mothers think so too. I knew a few ladies sufficiently well to ask them frank questions. I had an impression that the young Frenchman of education was more graceful and more understanding in his ways with women than the young of the English. But my friends said no. They declared that our boys were more attentive "avaient beaucoup plus d'égards pour nous" than their own, were less selfish, and more to be trusted. One mother said she could let her daughters associate more freely with Englishmen than she would dare with Frenchmen. That is no doubt partly because the girl, being at home, would be more the mistress of the situation with a stranger. But I remember many years ago a Frenchman asking me about the girls whom he saw in the streets of London. I explained to him that with us young girls walked about alone and with safety. His comment was: "Alors vos jeunes gens seraient très peu entreprenants." But even with us this freedom is of recent growth. I remember when a woman could hardly be seen in a hansom alone, and even now she is not always safe from rudeness in the street.

In France this kind of bad manners is less reprobated by public opinion, and in consequence more frequent. The marriage customs have themselves, in a curious way,

an effect in this direction. Frenchmen may not, or at least do not, marry in the irresponsible and independent way of England. It is a matter of family arrangement and consent. If a young girl of good family is seduced, the man is not considered bound to marry her. His conduct is disapproved, but he is not ostracized, as under similar circumstances he would be in England. He is under the control of his family, and they naturally dislike such an alliance.

There is the same division in elementary education as in secondary. There are the State schools, supported by public funds, which teach morality, but not religion, and, according to my Catholic informants, with unsatisfactory results, and there are *écoles libres* supported by the voluntary contributions of Catholics. The curés themselves depend upon the contributions of their parishioners. They get no other salary, and in poor parishes they are extremely poor. Parish life seems much the same as in England. There is the same small set of women who every morning go to early Mass, the same devoted lady who plays the harmonium and puts flowers on the altar, and the same indifference of the men. There are the same little processions and societies for the children and the girls, though, instead of being Bands of Hope or G.F.S., their duties are to accompany funerals in a white wreath or veils; and there is the same criticism of the curé by his parishioners, and of the parishioners by the curé. There was not wanting the tongue of scandal which I have heard frequently in country parishes at home. On certain festivals, and especially on Corpus Christi, there were processions in all the villages. The village streets were strewn with grass, or in ambitious places with branches, and most houses had flags and flowers. There were at

odd spots canopies with sacred groups, and a general air of sweetmeats, and crowds of little girls in white carrying by poles on their shoulders emblematic figures made of unknown substances, sometimes woolly, sometimes plastery, but always clearly adorable. The natural taste of religious people is now abominable, and it offends them to try to make it otherwise. Woolly lambs and plaster Madonnas and cows with the toothache inspire more devotion than beautiful design. Tinsel is the right thing if you want to make people really virtuous.

But the striking thing in France is the bitterness between the Government and that part of the population which is Catholic and religiously inclined. It has no parallel with us. Even a schoolmaster dares not frequent the church or his chance of promotion would be destroyed. This religious difficulty, or, not to put too fine a point upon it, the persecution of religion in France, has alienated the Catholics and is a source of weakness to the State. It has its origin, no doubt, in past times, when, if there were Archbishops like Fénelon, there were Cardinals like Dubois, when the gloomy orthodoxy of a King resulted in the oppression and banishment of thousands of his subjects, and the clergy claimed to be free of taxes, while the poor died of starvation. But it has its reasons still. The policy of the Church has always been reactionary, and with a few exceptions, such as the Abbé Lemire at Hazebrouck, who has shown that a good priest can be a good republican, has been hostile to the present form of government. Seeing how difficult and dangerous has been the path of the Republic, it is no wonder that it should have been hard when its safety was involved. But it has been very hard, and not only for that reason. There

is in France a spirit of fierceness in these matters which we profess not to understand. Were safety the only rule of conduct, I should expect the Republic, now that she is secure, to be more lenient; were patriotism the criterion, I should expect her to be more charitable in the future, for the Catholics have fought as hard as any Frenchmen, and the great figure of Foch stands at their head. Yet I see little prospect of any such change and the Catholics do not expect it. But before we criticize let us at least remember. Our Revolution was a hundred years before the French, but it is less than a century since we gave Catholics a vote, and less than fifty years since we admitted them freely to the older Universities. I am not aware that since the Terror the French have denied them either privilege. We think it strange that men should feel bitterly upon religious questions, yet our great-grandfathers cherished towards the Roman Church as fierce a hatred as French Liberals cherish now. These memories may make us chary of boasting that religious intolerance is a vice from which the English race is free.

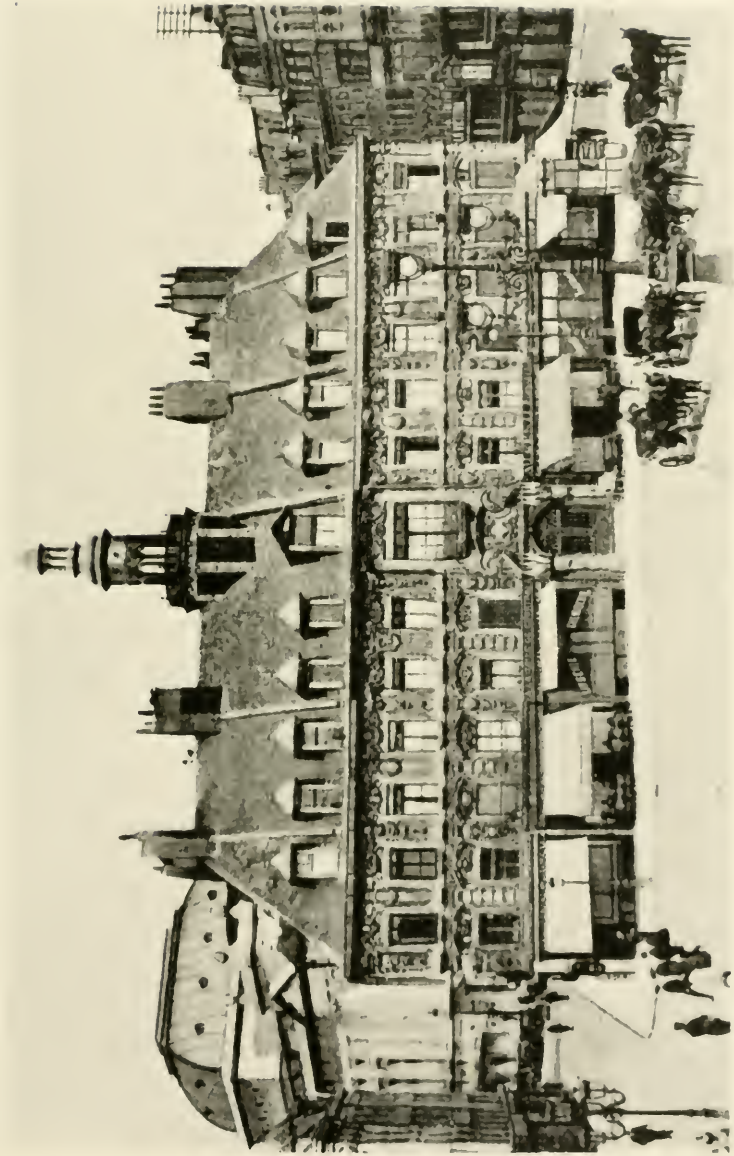
And next let us realize that there is very good reason for these feelings. Religion is in private life exacting, and to those who hold different opinions often exasperating. Her attitude to questions concerning marriage drives men to fury in England as well as in France. In public life, although in early days she championed the cause of the poor, she extorted a heavy tribute from them then, and, where she can, extorts it now. But, above all, she has been steadily opposed to liberty, and especially to that principle of liberty of thought which once swayed our ancestors and now sways France. There it is held now, as it was in England then, with the same conviction, there it excites the same passion

as the most incomprehensible mystery of any faith. Men persecute for its sake because it is their religion, and religion in power has always persecuted. The Roman Church stoned the reformers and burnt the discoverers when she could. Now her foes are following the example that she set.

CHAPTER XIX

LE PAS DE CALAIS

THE country round Hesdin is pretty. The little town lies at the junction of the Ternoise with the Canche, which runs past Montreuil and into the sea at Etaples. The two streams enclose an oval hill over which the road goes east to St. Pol. There is in the town a large market-place, on the west side of which is the old Town Hall, with a fine portico built between 1564 and 1629, when the place was part of the Spanish Netherlands. Just behind the Town Hall was the Château of the Queen of Hungary, sister of Charles V. The town was founded in 1554, soon after Vieil Hesdin, once a favourite seat of the Dukes of Burgundy, had been destroyed. It was strongly fortified, but it was taken by the French in 1639, and remained ever after in their hands. The weather in June that year seems to have been much the same as now. We had to light our fire in the evenings up to June 22nd, 1916, and from June 23rd to 26th, 1639, "le vent estoit furieux, la pluie estoit meslée de gresle et de neige." It was the fashion then as now for distinguished ecclesiastics and civilians to visit the trenches. Shells were used in the attack which were 15 inches in diameter and 18 inches high. Piccolomini sent a letter to the Governor to say that he was coming to his relief, but the French captured the messenger and forged a letter in the opposite sense,



THE EXCHANGE AT LATHÉ—AN EXAMPLE OF SWEDISH ARCHITECTURE

so the Governor surrendered and the Spaniards marched out. La Meilleraie, the French commander, was made a Marshal on the field, Louis XIII. giving him his cane for a bâton.

Our sporting friend at Fauquembergues had told us that the auctions for fish at Calais and Boulogne differed in that at the latter the bids are made upward in the usual way, but at the former the auctioneer begins at a top price and comes down till some one cries "Mincq." I could not imagine what "Mincq" meant until I came upon a decree of the Governor of Hesdin in 1767 which grants—

"1° Qu'un mincq sera établi à Hesdin pour la vente des poissons de mer non salés.

"2° Qu'outre les mincqueurs il sera créé douze mincquants ou mincquantes pouvant acheter sur l'assise des prix faite par le mincqueur en criant MINCQ."

The long hill that runs east and west on the north side of the valley is covered with a fine beech forest, and there are scattered woods everywhere. The hills are nearly all under plough and the valleys chiefly pasture, which in winter is very wet. The hills are chalk with a coat of clay, and the ground is poor. Crops are not nearly so fine as in Flanders. The farms do not run so large as they do there, and the buildings are not so good. Many houses and almost all outhouses and farm buildings are made of laths filled with mud hardly two inches thick, which quickly breaks and falls out. They were woefully out of repair during the war, and many were nothing but an open framework of laths.

The cultivation is much the same, but they do not need to ridge their ploughs for drainage as in the plain, and therefore use a plough with two shares, turned

opposite ways, which they reverse at the end of the furrow and so deliver the swath always in the same direction. The crops are much the same, but they grow some long-stalked cabbages, 2 feet 6 inches or 3 feet high, which I had not seen before, and there are occasional patches of Ratubaga. This, too, is the principal area for growing French tobacco, which I like very much. The seed is given to applicants by the Government, is sown in frames, and pricked out in April. About seven leaves are allowed for each plant — at St. Sepolcro in Italy it used to be five—and in July the Government inspector visits the crops. In the autumn the leaves are pulled and brought to the depôt, where, after allowing a little to be retained as a perquisite, the rest is bought according to its quality and the price given to the farmer, less one-tenth surrendered as the Government's share.

The horses here are the Boulonnais, an excellent breed for labour. The face is longer and the muzzle bigger than in the Flanders horse, the head is carried lower, the back is longer, and the legs more hairy. The colour is commonly white.

This rolling chalk hill-country stretches from St. Omer in the north into Normandy, and from the Channel eastwards to the line of Lille, Lens, Douai, and Cambrai. It was a great pleasure after the dreary flats of Flanders.

The population is much better off than our country labourers. Each family owns its own cottage and a piece of land for cultivation. By paying a small sum they have the right to pasture on the *prés communaux* where these exist. In our village, which had common pasture, they all kept livestock, a cow or a goat or two. They work very hard and there are no reading-rooms

or similar amusements such as we provide. But they read newspapers even more than we, and the week's work is diversified by the weekly market, which all attend. We do not realize what we lose by not having frequent markets. In France it is the club of the countryside. The poorest have something to sell, if only half a dozen eggs, and also something to buy, if it is only a sixpenny broom. They see not only their neighbours, but the townspeople; they gossip and hear the news, and it is a meeting-place of various classes, for the richer housewives come to buy. It is, moreover, a natural relaxation, and not an exotic like the club-rooms, concerts, and lectures which the benevolent think that our poor appreciate.

When people talk about the needs of other classes than their own, they commonly seem to me very ignorant. They do not realize how different are the ways of life and the ways of thought.

The thing that is easiest to catch is their farcical humour. You can generally put things in that queer extravagant way that they use. But that is a small part of their life, after all. For most people, the best attitude is one of respect but aloofness, while at the same time you "stand by" to employ, on certain occasions, powers or opportunities, which they lack, in their aid, though with considerable risk of ill success. One of my friends at the war had to do with the Irish Fisheries, and told me many stories of the failure to get the West Irishmen to take advantage of them. He told me of the fishing-boats which they were given, and how the crews could never be got together because one of them always wanted to dig potatoes; of the oysters that were laid down, and promptly all scraped up again; of the little starving mussels that they refused

to transplant to good beds even for excellent wages; and of their losing the trade in mackerel, because they would not grade them. There was a complete want of sympathy between the Board and the people, which led to a waste of money and a waste of effort.

In the Hesdin woods are roe and wild boar as usual, and buzzards breed there. I once had four of them—I suppose the old birds and the young of the year—wheeling and settling in a tree over my head, and making their curious scream. I saw one of them flying over the valley attacked by a kestrel, who swooped at him three times. The buzzard paid him not the least attention. One day in a lovely corner of the Authie Valley I heard a bird whose note was quite new to me. I just managed to see it in the top of the trees, and later I saw more of them, but I never had the luck to get near enough to see the plumage. It was the golden oriole, a very rare bird in England now, though Gerald, Arch-deacon and historian, knew it in Wales in the reign of Henry II. I once saw a flock of green plover high up, the only time I ever saw them in France, and two or three times I heard, and once saw, curlew. Swallows were fairly punctual to the 16th of April. I was one day given an uncommon little beast, a garden dormouse, which the men had killed for a rat. It has a black patch under the ear enclosing the eye and running down the side of the nose, and another on the shoulder. The tail has a tuft, which is black above and white at the edge and underneath. It walks like a dormouse, and not like a rat.

The flowers here were more varied than up north. Beside the flowers I saw there I found wood-sorrel, several orchids (including the butterfly, the fly, and helleborine), aconite, larkspur, Venus' looking-glass,

a fine large purple groundsel, and many others. As railway embankments sometimes atone for their ugliness by preserving rare species, so the parapets of old trenches became in that area beautiful gardens of wild-flowers. Out of the eater came forth meat.

It is a popular belief that the roads of France are straight. It is true of the main roads, which are all that most travellers see, but the country roads are as irregular as any in England, though they run broader than our lanes. Through villages they are hardly ever straight. Most villages are built on a **Z** plan, with two right-angled turns, and sometimes it is a double **Z** with four turns. This is so common that I think it must have been intentional for purposes of defence. The main roads are wider than ours, and the stretch of grass on each side and the line of trees which borders it are very pleasant. The Germans, when retreating in 1916, cut down a great many of these avenues as well as many fruit-trees. The latter they sometimes ringed, which could have had no purpose whatever but wanton destruction. The French prune the tall trees very close to the stem by means of a crescent-shaped knife like a turf-cutter, at the end of a long pole, the butt of which they hammer with a mallet. The tree-stems are often very bare and ugly, yet there is a picturesque grace about these long sticks with a tuft of foliage at the top which makes our short, bunchy little oaks look like cabbages.

The *souterrains*, or underground habitations, are a curious feature of this part. I went through those at Naours and Étapes, and saw the entrance of that at Bouzincourt, near Albert. It is supposed that they were made as refuges to escape from the continual invasions which from the days of Cæsar have devastated this

unfortunate land. The best account is that of M. Salomon* of the *souterrains*, or "muches," of Hermies, which M. Rodière, a learned antiquary of Montreuil, lent me to read. This particular underground, like that of Bouzincourt, started in the floor of the church tower, where a large flagstone concealed a winding stair which led to a corridor about one hundred and fifty metres long. At the end of this, and connected with it by branch passages, were found two or three series of chambers, about twelve feet square, a hundred and thirty two in all. The corridor was partly walled with dressed chalk, and was six feet high. In this underground village there were fifteen chimneys for smoke, for throwing food in, and for climbing in and out. Up some of them were footholds. There were two wells, one of which contained under the débris a deposit of cinders in which were bones of the domestic animals and man, and some pottery of the second and third centuries of our era. There were five entrances from the open, which were probably concealed. The Naours underground contained chapels. They seem not to have been used after the sixteenth or seventeenth century, and had been completely forgotten. They have been rediscovered by accident.

This country is full of history, and there is hardly a village that is not mentioned by Froissart. Isbergues, between Aire and St. Venant, is named after a daughter of Pepin, who, probably for good reasons, vowed herself to celibacy. This saved her from a German suitor, but it was not enough to baffle an English prince. She accordingly prayed to Heaven, which bestowed upon her "les écrouelles," serofulous glands in the neck, and

* A. Salomon. "Les Muches d'Hermies," *Bull. Soc. préhist. Franc.*, 1913.

thus protected her against the Prince of Wales of the period. Later, however, she seems to have been much disappointed that she was not allowed to marry Didier, a Lombard prince, and retired to a convent which she founded and managed at Isbergues.* With an Abbess of that history I feel sorry for the nuns. Didier was afterwards defeated and captured by Charlemagne, and is supposed to have been imprisoned at Montdidier. Our home at Hesdin lay midway between Crécy and Agincourt. At Aire Bayard gave his first tournament. At Peronne Quentin Durward saw Louis XI. put his head into the lion's mouth. The Spaniards inheriting Burgundy fought the French under Henry IV. and Louis XIII. all over this area. Marlborough's campaigns were on the Scheldt, the Meuse, and the Lys, and his wonderful surprise march of thirty-six miles in sixteen hours was made from a position just north of St. Pol to the ground between Douai and Cambrai. In 1915 a regiment of our cavalry found themselves in the same quarters which they had occupied exactly a hundred years ago in the Waterloo campaign. An equally interesting record of the past was Napoleon's billeting lists which we found in Italian villages. He packed his men tighter than we do.

* This is priestly history. There are other versions, and the lady is sometimes differently named.

CHAPTER XX

FRENCH AND ENGLISH

IN April, 1915, I went to Paris for three days to learn what I could about their treatment of cerebro-spinal fever. Everyone was very kind, and Professor Roux, of the Pasteur Institute, asked me to meet Metschnikoff at luncheon. The old man came in railing at the war because it had taken away his laboratory assistant and had stopped all his work. He rated the French, he rated the English, he rated the Russians, and he cursed the Germans. There were four Frenchmen and myself, who tried to defend our respective countries; but the more we expostulated, the louder and more continuously did Metschnikoff talk, until we made such a din that people stopped in the passage to listen. Then we asked him what he was himself. He described himself as "toute sorte de canaille," his family having originally fled from Moldavia to escape the vengeance of some ruler of the time, settled in Russia, held certain public offices there, and intermarried in various directions. We talked of the beauty of French, but Metschnikoff declared that no language could compare with Spanish for beauty of sound, and that the closed nasal sounds in French were a great blemish. I have always admired the care with which the French learn their own language. They learn it as we learn Greek, and their accurate and pointed talk is a great contrast to our indistinct utterance and slipshod phrases. I hate the disrespect with which we

treat so beautiful a language as English. But some Frenchmen there thought the system overdone; and while anxious that boys and girls should read good French prose, especially Rousseau, by whom they all swear, declared that continual notebooks and examinations rendered them formal and sterile in ideas. Metschnikoff died a little while ago. He was, I think, beloved by everyone, and he stated during luncheon that, though he had been engaged in many controversies, he had never been on bad terms with any of his opponents. That is a great thing for a scientific man to say.

There is a curious difference between English and French. French, while copious and exact in things pertaining to human life, especially to mental and bodily qualities, is poor in words for common natural objects. Both gooseberries and currants are *groseilles*, and both martins and swifts are *martinets*. The French, though they have brilliant naturalists, have not the widespread love of nature that we have. I will not say that our own knowledge of natural history is excessive. I once found a group of Clearing Stations very uneasy over some white material that was dropping from the sky. German aeroplanes had been over in the morning, and opinion was divided whether the stuff was some new explosive or an insidious form of propaganda. It was the web of those little spiders that migrate by floating on home-made airships.

There is a contrast, too, between French and English writers in the accurate use of words. A Frenchman prides himself on using the exact technical word for everything he describes; an Englishman seldom takes that trouble. We have borrowed enormously from them. Nearly all military terms, for instance, are French, and many of those which belong to sailing ships. Under the Plantagenets

we were the most skilful tacticians in Europe, but modern military science began under the Generals of Louis XIV., and their language is the military language of the world. French is difficult even for the French, and I have known a company refer to the dictionary for an unusual plural.

The children of the French poorer classes are brighter and have better manners than English children. If you talk to them, they are not in the least shy, and they answer you civilly and clearly. If they meet you on the road they always address you. I was out walking one day when I heard a small "Bon jour, Monsieur." I could not at first see where it came from, but presently a small girl, about six, emerged from a path I had not noticed. So we entered into conversation, and she gave me a clear account of where the path led to and which way I must go. I made another friend the same day, coming home, but she was ten or twelve, and was going to get *levure*—that is, yeast—to make the bread. Her papa farmed his own bit of land. She did not know how much, but it was two horses. That, if you come to think of it, is a very good way of measuring a farm. He sowed his corn, reaped it, got it ground at the mill, and then made bread of it. She was going to the château to get the yeast. The château was the house of a big brewer. The children look charming in the winter, when they wear blue cloaks with peaked hoods, like little goblins. But looks are deceptive. I asked the hostess of the hotel to take *The Times* for me from the boy who was to bring it, as I was going to be out. He was a nice-looking boy, with a frank, open face, just the face for a company promoter, whose name was Peyron. "Ah! oui. Peyron le filou," said Madame.

They are always playing, and I hardly ever saw them either crying or quarrelling. Hardly ever, either, did

I see a mother slap a child. The parents seemed extremely kind to them. There is not in them that impulse which prompts the English parent to "go and see what Johnny is doing and tell him he mustn't." But, as in all agricultural communities, they share in the hard work, and spend many hours watching the cows feeding by the roadside. They were always about with our men, climbing on waggons, or walking hand in hand with them. But what they loved best was helping to cook, or hindering, at bivouac fires. No one else enjoyed the war, but I am certain the children did.

Children of the upper classes are much more with their parents than ours. In one house I knew there seemed to be about eight children always in the drawing-room. It would have worried the life out of an English lady, but the French mother did not seem to mind it in the least. In another, the two little daughters, aged, I suppose, about nine and thirteen, used always to bring in tea, or, in winter, what was still more delicious, chocolate, when I called on their parents, and dropped me charming little curtsies before we shook hands.

Shyness, which is commoner in us than in other nations, is a curious malady. It is partly, no doubt, due to inexperience of society and is aggravated by the separation of young and old that obtains in English family life. But it includes also a great deal of self-consciousness, from which form of egotism the French are singularly free. Indeed, the whole group of words compounded with "self" are rather difficult to translate into French. I fancy that that indicates a certain simplicity in the Frenchman which leads him to analyze others rather than his own character. Instead of perpetually thinking how he is appearing to others, he considers how they appear to him. He is not con-

tinually afraid of producing an unfavourable impression, for he is at ease in his opinion of himself. And that is true in a wider sphere than the individual. We are much given to criticize ourselves in comparison with our neighbours, but it is rare to meet with that form of national uneasiness in France. I should say that their verdict on themselves would be that they have much less to learn than to teach.

We saw and heard a good deal of the behaviour of the Germans in the invaded districts. One of Madame's daughters, Madame A., lived in Bapaume, which was in German occupation until 1917. No news had been received of her since the Germans entered it, and it was unknown whether she was alive or dead. But in February, 1917, Madame came into the library to tell me that she had a telegram to say that Madame A. was at Annemasse, near Geneva. The relief from the long strain of anxiety quite broke the poor old lady down. About a month later Madame A. arrived. She had been living in Bapaume until we advanced, when she was sent to the rear, and soon afterwards to Switzerland. She was not allowed to carry any money or valuables. She had some securities in her own keeping, and tried to save them by burying the packet in a box under the floor of a stable. But unfortunately a shell burst in the stable, and when I saw the packet retrieved after the German retreat it was quite unrecognizable. She lost everything she had, and hardly expected to recover it. But some were more fortunate. In the autumn of 1916 fifteen or twenty of the inhabitants of Fricourt came back under permit to recover buried property, and were almost all successful. Madame X. herself had land east of Cambrai. This also was totally ruined for the time, but as there was no

prolonged fighting over it the ground will no doubt soon recover.

Madame A. had had German officers quartered on her all the time. She said they behaved well themselves, and kept strict discipline, but that their rule was very oppressive. She did not know of any cases of ill-treatment of women and I heard the same from other refugees in the neighbourhood. I talked one day with a bank manager from a small town on the Lys, on whom some German soldiers were quartered in the first advance. He said they behaved very well on the whole, and stole nothing, but that there were some *moments psychologiques*. One of them was when the sergeant proposed to sleep with Madame. Madame appears to have been a pluckier person than her spouse, and promptly put the sergeant in his right place. The same Germans were quartered on them when they were in retreat, and Madame, quite undaunted, to the horror of her husband, inquired tenderly how they had liked Paris. They did not take it amiss, and merely replied that there had been a change of plan.

When we came into Cambrai in 1918 many of the inhabitants were admitted into our hospitals. They had been living on the provisions distributed by the Americans, and said that the Germans, who were on short rations themselves, stole some of the provisions, besides pillaging the houses of mattresses, clothes, linen, furniture, and everything they could remove. "Ah! Monsieur, vous auriez dû voir partir un convoi. C'était quelque chose! Tout leur est bon." But what they dreaded most was the forced labour. The Germans searched the houses over and over again for young men and boys, who, if found, were made to work on the trenches even under fire, and were beaten with sticks. It is

almost incredible that any should have escaped the search, but the women assured me that some of them were concealed the whole time. We found too that some of our own men who had been made prisoners, and had escaped, had been similarly concealed. The condition of these patients was very bad. They were half-starved and miserably pale and weak. But they were not so bad as some of our returned prisoners, though others were fairly well nourished. I questioned German prisoners, both officers and men separately, about their rations, and I could not find that they had been very short. They told me they had meat every day, a ration of 250 grammes (a little over half a pound), which they had in soup or stew for dinner, and that at supper they usually had sausage or something of the kind. Their bread was bad, but they did not complain of the quantity, and though their later levies were of very bad quality, I never saw prisoners who looked anything like starved when they came in.

The thievery of the Germans and their destruction of property was beyond description. At Douai, which had not been damaged up to the time when they decided to evacuate it, they turned the population out of the town, and then, entering the houses, proceeded deliberately to destroy their contents. Mirrors were smashed, furniture cut to pieces, and books destroyed. The act was of no advantage to them: it was simply wanton. At Lille they removed all the best flax-spinning machinery, as they intended to set up a trade with Russia in raw flax, and they then with hammers knocked to pieces a large proportion of the rest. In other industries not so much damage was done, and one manufacturer at Turcoing was in a condition to start work again as soon as he could get raw material. When removing the

machines, however, the Germans had left formal receipts. These enabled the French to trace them and a large proportion were recovered.

In Valenciennes I noticed a delicate piece of Gothic tracery in what was evidently a chapel. I found it belonged to a convent, and the portress took me in to see it. It was completely packed with loot from neighbouring country houses and churches. There were pictures, including many old family portraits, furniture, china, and church ornaments among it. Much had already been sent to Germany, and what I saw had been left behind in the hurry of the retreat.

At Avesnes one of our armies found an English lady who had a house there to which she used to come every year. She was caught there by the German invasion and was herself well treated. Every German officer who was quartered upon her took what he liked out of the house; but as he also brought into it whatever he had stolen from other houses previously, she was no loser in the end, though she was left with the furniture of other people instead of her own.

The conduct of the Germans to women was, however, sometimes abominable. At Lille early one morning they entered every house, and paraded the occupiers just as they were. They then selected such girls as they chose, sent them back to their rooms to dress and marched them off there and then to the station, whence they were drafted away to some other area to work in the fields. In one house they seized a lady's maid who was in bad health, and when her mistress said that she was unfit for hard work and exposure the reply was, "If she does not go, you must." The lady went, but was sent back. I asked my informant, a rich manufacturer, if his own daughter had been taken. He said

that luckily he had sent her away into France, but that if she had been there she would have been. Among those seized were some loose women, and on the strength of this the whole number, he declared, were compulsorily examined by German doctors. Nine thousand girls were thus deported, but such an outcry was raised, that the order was then countermanded, and the girls after a time got home.

If we consider how we should like to have a couple of million foreigners quartered in Kent and Sussex, we shall understand how trying it must have been to the French to have our army in their country. On the whole, I thought the relations between our men and the civil population extremely good. Of course, the men made love to the girls, that goes without saying, but there was a great deal of family friendship as well. We constantly saw our men walking out with a whole family on a Sunday; the small farmer's family that I knew seemed on very good terms with the soldiers quartered there, and I saw but one quarrel in public, when a soldier the worse for drink ran off with a bottle of wine from an inn with the landlady at his heels. Knowing the lady, I was glad they were his heels and not mine. I myself met with nothing but kindness, and I am sure that my dear old hostess was genuinely sorry when we went. Nor was she the only hostess who was kind to me. Just before Christmas, 1915, I had to go from St. Omer to Corbie to see a patient. It was a long way and I had to put up there for the night. I had a bed at the house of an old widow, who was a large wine merchant. She had a delightful old room of her own, long and low, with great beams in the ceiling and brass jugs on shelves, half kitchen and half parlour. The next morning when I bade her good-

bye she was most anxious to know if I had been comfortable. I had had a bad night owing to the window, the fastening of which was broken, continually banging, and the bitter cold, but of course I said I had been in paradise and thanked her for her kindness. "C'est à moi de vous remercier, Monsieur," she said, and made me a profound curtsy. She was of an untold age and wore a wig, but she was a remarkable old lady and as brisk as a kitten.

The Medical Officers did a great deal to maintain good feeling. The French Government had drained the country of its doctors. At Hesdin, Hazebrouck, and Merville, for instance, which contain three thousand people each, there was only one doctor left, and in some instances he was an old and feeble man. We did a large amount of practice, for the work was far beyond the capacity of one man. In some cases our assistance was gratefully acknowledged by the French Government, and in one the inhabitants made a presentation to a surgeon at the Clearing Station who had operated on many civilian patients. At Bailleul the people had been so kind that one of our Clearing Stations gave an entertainment to twelve hundred children as a testimony of their gratitude, and on New Year's Eve asked several of the leading inhabitants to dinner. After dinner, as their French was not very fluent, they fell to playing games. They taught the men cock-fighting, and the ladies how to chase walnuts round the floor with a teaspoon. The Mayor said he had frequently seen and admired the British officers at their work, but that he had acquired a new light upon their capacities by seeing how they spent their evenings. I once went to see with one of our officers the little daughter of Comte de D., who had a large château north of Popper-

inghe. They had been most cordial to the Corps H.Q. which was quartered on them, and scrupulously honourable in all matters of compensation. The patient was a little girl of three years old, I think the youngest case of typhoid I ever saw—and was excellently nursed by her mother, who was a very sensible lady. She was the youngest of ten children. There is hardly any drainage possible in that neighbourhood, and, as in most houses there, the drains ran into a large cesspool which was in the usual situation, under the dining-room windows. At one of our hospitals an old French lady used regularly to attend the funerals. She had no relations in the war, and looked upon it as her contribution of personal service.

On the other hand, there is a strong vein of suspicion in the French. If any of their Generals make a mistake they always suspect treachery, and when the Fifth Army was driven back on Amiens the man in the street at Paris found nothing too bad to say of it and of its Commander. The next month, April, 1918, during the fighting on the Lys, a mine manager assured a French gentleman who went to buy coal that the English were going to let the Germans capture the coal-mines, as France would then be forced to buy English coal. At one time there were rumours that the Queen of the Belgians, who is a Wittelsbach, was a traitor, though she was then nursing devotedly in the hospitals. That kind of thing flares up and dies down again without disturbing the general good-feeling.

A French artilleryman told me that his people got on well with our soldiers, and he was much impressed by some cunning observation-post of ours, I think a sham tree-trunk, which he had seen, but I had little opportunity of knowing what the general feeling between

the two armies was. No doubt we each criticized the other sharply, but I think each had an undoubted respect for the other's qualities. My nephew, who was a gunner, was at one time taking orders from the French, and said that their officers were extremely pleasant. Another of our officers, after criticizing the French with some bitterness, went on to tell me that he reported one of his own officers to be dying of wounds, upon which his French Chief instantly sent one of his own staff with the *Légion d'Honneur*, that the wounded man might get it before he died.

There has been no instance since the days of Marlborough and Prince Eugene of such co-operation between high commands as this war has shown between us and the French. No one can suppose that it was easy to maintain, and the Germans tried by all means to disturb it. In September, 1916, I saw a leaflet dropped from an aeroplane calling upon the French to give up dropping bombs on Carlsruhe, and ascribing it to Poincaré, through whose subservience the English were using the French for their own selfish ends. The manners of the two nations, and their tempers are so different that it is a marvel that their relations remained so good. I have no doubt that it was due partly to real mutual esteem, partly to certain qualities in each of us, and largely, also, to the brilliant stupidity of the Germans, who, if there were signs of a little rift within the lute, as sometimes happened, invariably chose that moment to sink a hospital ship, or to shoot a devoted nurse, or to commit one of the various outrages that exasperated the rest of the world and hardened its determination. So far as our own qualities contributed to the maintenance of goodwill, I always ascribe a great deal to the strict training that Englishmen get in school,

University, and civil life in the task of self-control. An Englishman learns very early that he has to keep his temper, and he develops a power in that direction which no other nation in Europe possesses to the same extent. He is also taught that a "cad" is one who, when he is not giving offence, is taking it, and that a properly behaved person never feels insulted because he never need. This attitude is obligatory in the Services as well as among civilians, and if our officers deviated into German ways I suppose we should take them out and drown them in the deep blue sea. They are both officers and gentlemen. So we learn to treat delicate situations with humour, and I remember one distinguished officer saying to me that when the weather became a little stormy he invariably developed a disgraceful ignorance of the French language. Filtration through an interpreter cleared the atmosphere at once.

CHAPTER XXI

WET, COLD, AND POISON GAS

THE weather has been extremely bad during the winters in Flanders and Northern France. In November, 1914, there was a very hard frost which produced a certain number of cases of true frost-bite. The first three months of 1915 were so wet that the country was half under water and the trenches were flooded. We were then entirely in the low country north of Bethune, and the whole front suffered, for everywhere along the line the men were standing in water. A C.O. of a cavalry regiment told me that he had just brought his men out after standing for forty-eight hours in water above their waists. He had not lost a single man, but when they came out they were exhausted to the last degree, and in other regiments some men died of exposure, and some were even drowned in the trenches.

Exposure to cold combined with wet, and inability to keep the circulation active by walking about—for movement was not only almost impossible in the deep water, but also dangerous from the enemy's fire—produced a condition that we called "trench foot." It did not give the typical picture of frost-bite as it occurs in the dry cold of Arctic countries, but was more like a wide extension and severe degree of chilblain. We all caught chilblains in France. I never had them so badly since I was a child. And it is interesting

to find that Larrey, Napoleon's great military surgeon, states that the men's feet were attacked much more when the snow melted than at the height of the cold.

In natural conditions the warmth of the limbs is maintained by the continual circulation of the blood from the central parts to the limbs and back again, and this is greatly assisted by muscular movement. In the present case the legs were not only continuously chilled by the cold water and the circulation reduced by inaction, but they were undoubtedly affected also by prolonged soaking. The feet first became painful and tender, then swollen, cold, and numb, and then red and hot. They often blistered, and in bad cases lost the toes or even a larger part of the foot from mortification.

Combatant officers were at first inclined to make light of it, but they soon found it was a very serious question. One Division which had been rather carelessly handled lost two thousand men in a week. The medical branch knew better, and from the first tried not only to instil the need of care into the minds of Commanders, but also to devise means of prevention.

The trenches had been constructed under great pressure of time, and in circumstances of great difficulty. It was not possible to drain them, for they represented the water-level of the country. The water could be pumped out for a time to a certain extent, but it rose again through the floor and walls. It was impossible at that time to use the various methods by which, when we had more experience, more time, and better weather, the trenches were afterwards improved.

Some of them were abandoned and the troops moved a little backward into better lines. But in most parts the whole country was a mass of liquid mud, and no change of this kind was of any advantage. We urged

that the period of duty should be shortened, and this was of use where it could be adopted. But in many places the Germans overlooked our lines, and relieving was so dangerous that it could not be carried out at short intervals, for the loss of life would have been too great. There is also a drawback in very short periods of duty, for the men will not work at the repair of trenches which they are going to leave next day.

To avoid any pressure on the bloodvessels, and so to maintain the circulation as free as possible, the men were ordered to wear their puttees loose, and not to lace their boots tightly, and to lessen the effect of cold they were supplied with two pairs of socks and a larger size of boot. But this measure, excellent for dry cold, was of little use when the legs were wet. Great attention was paid to the feet. Before going up they were washed, dried, and greased. Every twenty-four hours the process was repeated, and after the feet had been rubbed warm dry socks were put on. Leg-drill was ordered in the trenches to increase the circulation.

Again, various suggestions were made for waterproof boots. Sir Arthur Lee (Lord Lee of Fareham) had seen in Japan waterproof stockings of paper, and some such were tested, but they wore out in a day or two. Canadian lumber boots, high boots like the Norwegian field-boot, but with felt leg-pieces, were described to us, and requested. I do not think we ever secured any of the proper pattern, but twenty thousand pairs came out which, when unpacked, were found to be the rubber and felt shoes reaching to the ankle that are sometimes worn over thin boots when there is snow on the ground. At last some long waterproof thigh-boots began to come out, and on December 6th, 1915, an A.D.M.S. told me that there were enough for every man in the trenches

to have a pair, with about a hundred pairs extra per battalion.

At the same time arrangements were made to supply hot food to the men in the trenches.

All these measures were excellent so far as they went, but owing to the conditions they could not go all the way.

In the Division just mentioned the boots were enough to go round the men in the trenches. But as the reliefs had to march a long way up, partly through wet communication trenches, they arrived wet through, there was no possibility of drying in the trench, and the boots they received from the outgoing men were wet through too. Every now and then the water would be over the tops even of long thigh-boots. Then, again, some trenches were very much isolated and could not be relieved often, or even supplied with food except by night. In another set of trenches the nearest place where it was possible to change and dry the feet was in the bank of a canal a mile or more in the rear. All the dug-outs had fallen in, the firing-step was under water, and the sentries were standing on half wine-vats to keep them out of the water. Where conditions permitted the orders to be carried out great benefit was afforded, and subsequently, as we had opportunity, we improved the trenches very much. We never had so many bad feet after 1915.

The affection does not occur only in the trenches. I have seen a mild case of it in a dispenser who stood all day on a cement floor, and I have seen it, or something very like it, appear in a hospital patient. I believe the flying men never got it, though no doubt exposed to intense cold.

Even when at rest in the rear life was not luxury for

a soldier. One evening a nephew who had enlisted and happened to be in camp near-by came to our room. He was so dripping with water and mud that he refused to advance beyond the threshold for fear of spoiling the carpet. He was, however, quite cheerful over it. He said they were living in a sea of liquid mud, that he had not washed or had his clothes off for two days, and that, speaking generally, it was a novelty. However, his tent was water-tight; there were eight of them in it, so it was not cold, and the little trench dug round it kept the water from running over the floor. It was a sort of Ararat, the only dry spot around. I lent him my gum-boots, which added to his cheerfulness, and he went off with them under his arm. His surroundings were typical of the faculty that the men had for making the best of things. I found him living by the side of a very deep and wide ditch. In the bank they had scooped out two garden seats, had planted a bed of flowers, and had run a winding cinder path round it.

The British soldier is always making these little oases. If he sits down anywhere for a week, you may be sure he will either make a garden, or some sort of a shanty decorated with twirligigs made out of old tins, and usually with some romantic name like "Celia's Arbour" painted up on it. I once found the hut of a Salvage Corps Officer labelled "The House of Auto-lycus" (the "picker-up of unconsidered trifles"). The soldier's cooking places are very clever also. The A.S.C. lorries line the side of the road in some places, and you find all kinds of kitchens built. Some are simply old petrol-tins with holes in them, which make excellent grates on which to put the kettles. Others are built of bricks, and some are elaborate little furnaces made of stones or bricks and neatly plastered with mud,

with a bit of old iron pipe for a chimney at one end, and an opening on which to boil the kettle or grill the meat in the middle. Sometimes, if they are very particular, they whitewash the whole. I am not speaking of company kitchens or anything official. These are for the three or four orderlies of a single lorry, and are quite private ventures.

These were what the children loved, and no doubt they got pickings in plenty.

The cold was extreme in January and February, 1917. On several nights the thermometer fell to zero in exposed places, and, to make it worse, there were no huts in the Fourth Army about Albert, and so little fuel that the troops had hardly enough to cook with and none left over for warming themselves. Those who were in health did not suffer from this hard frost, but patients with bronchitis and broncho-pneumonia suffered severely. Everything was as dry as tinder, and three fires broke out in the tented hospitals of that Army, though fortunately no lives were lost. The tents burnt with great rapidity. I saw one fire break out and it took but three minutes to burn a line of three marquees. There was no time to get the extinguishers to work. It was an evacuation ward, so that the men were not bedridden, but were able to help themselves and get out of danger.

At that time, owing to the freezing of the Seine and the difficulty of railway traffic, Paris became very short of coal, and very long convoys of motor-lorries plied between the mines about Bethune and the capital. The result of the frost and the heavy traffic together was the destruction of the roads. The metal crust of French roads is always thin, and in the region where we were it lies upon the chalk, which naturally holds a great deal of water. The frost went through the crust into the

chalk, and, turning all the water it contained into ice, crushed the chalk into powder by the force with which the water expanded on freezing. So long as the frost held the only sign of damage was the wearing into ruts of the upper surface under the stream of traffic, but when the thaw began the chalk became a kind of porridge, and the crust, no longer supported on a solid foundation, broke and sank into it, while the chalky pulp below burst through, forming a morass through which it was difficult—indeed, in places impossible—to pass. For the Army, which depended for its supplies at the front upon motor or horse traffic, the result was very serious. All unnecessary driving was suspended, and great sections of the roads were dug up and relaid from the foundation, but it was months before they were fully repaired. Nor was it the roads alone that were affected. Under the rime of freezing fog or the occasional snowfalls miles of wires came down in every direction, and communication was often seriously disturbed.

It was at this time that a weekly journal severely criticized our Generals for not harassing the enemy, in order to turn his retirement into a rout. Probably the editor had read when at school that great Generals always followed up a retreating foe, and dealt him severe blows with great success. He was no doubt unaware that the mud was up to the men's waists, that fog effectually concealed the enemy's movements, and that a voluntary retirement to a prepared position is, as we ourselves more than once showed, one of the safest operations in war.

Of all the qualities of a soldier, endurance is the highest. Bravery is common to all nations and to the majority of individuals. It is seen in a fight when the blood is

up, and many are working together; it is seen in moments of peril when a man is alone, and his life depends upon the shot. It is magnificent, and many as have been the decorations of this war, they are wholly incommensurate with the extraordinary valour that has been shown. Some of our Divisions were known for their extreme daring, and at one time certain French regiments developed it to a degree that was a calamity. If they were ordered to attack they went straight on regardless of orders, giving no quarter and asking none until the last man was killed. Others of our Divisions were famous for their steadiness in the fight and for their unconquerable tenacity in defence. Such qualities are as much beyond the impertinence of praise as they are beyond the power of imagination.

But wonderful as such conduct is it is still a harder thing to bear without complaining the long-continued misery of trench life. The ceaseless danger, the never-ending din, the miserable discomfort of the dirt and wet, the peril of the night working party, the fatigue of bringing up supplies, the exhaustion of the march that will not and that cannot halt—that men can bear these things is a more amazing fact than acts of even the greatest valour. There is no reward given for it. It was the soldiers' duty, nothing more, and they carried it out unflinchingly, consoling themselves by grumbling with that cynical humour which is an English characteristic. Our humour is a little different from the American variety, and is deeper and more sombre in its quality, but we each appreciate the other.

I have not seen anything in English which approaches "Le Feu" in real description of the soldier's life or as a record of the facts of war. We must have had writers in our trenches like Barbusse in the French, but they

have not given us any account that can be compared with his. An unpretentious little volume of letters called "A Temporary Gentleman in France" is the best I know. It is faithfully and simply written, but of small compass. "Le Feu" is partial, for it is tinged throughout by the sombre melancholy of its author, and gives none of the lighter moments which break the monotony of a soldier's life. But he has that accuracy of representation which is the aim of all French art, and is neglected by modern English writers. What he describes, he describes in such detail and with so vivid an expression that the scene is almost reproduced in the reader's mind. The language of the book is the language of the French soldier, and needs an interpreter. Parts of it are so horrible that English readers, who as a rule like pretty and sentimental writing, would hardly wish to read it. But it is true, and with the Frenchman, as with men of science, that, so far as the matter of the book is concerned, is the thing desired. They desire equally that the manner in which it is written shall be fine also. But provided that it affords a sincere record of the fact, they permit and approve even the most hideous details.

That is a logical position, and those who criticize English standards hold up to us the French liberty as an example. It is undoubtedly the fact that the official censure, which exists in France as with us, permits the publication of writing that would not be allowed here, and it is no answer to say that such works do not appear on the tables of your friends. They are officially allowed and that is enough.

But the French are in their way just as illogical as we, for they are far stricter in the rules they lay down for their daughters' reading. I have been asked to recom-

mend English novels, and it was a condition that there should be nothing in them but what a young girl should read according to French ideas. I knew what that meant, and my writers did not accordingly get much farther than Miss Yonge. But, at least, it may soothe our consciences to reflect that if the French publicly permit a greater freedom in writing, they privately allow much less in reading than we. They admit all works to the gallery, but they exclude half the public.

In "Le Feu" there are some scenes which are written with a power that is frightening, and that with which the book closes can only be compared with the most terrible passages of the "Inferno." Indeed, it is the same spirit of remorseless logic which actuates them both. To think of the world as a system in which the cause is followed by the consequence is altogether beyond the compass of most men; they have no conception of the awful majesty of law. Many, on the other hand, to whom science has given this vision lessen the poignancy of its appeal by refusing to recognize the disturbing element of will. They minimize responsibility and they ridicule forgiveness. In human life those who are weak in hope see only the inflexible rigour of the rule; those who cannot grasp that fearful inflexibility think pardon easy. Their God is either too cruel or too kind. It was the strength of mediæval theology that, while believing in the Mercy, it recognized the Justice, and by faith acquiesced in the mystery of their union. Dante in the nine grandest and most awful lines that poet ever wrote, the opening of the third canto of the "Inferno," was not afraid to state that the highest wisdom and the primal love were implied in the terror of Divine justice; for to him, as to Michelangelo in the Sistine Chapel, the great fact of this life was the reign

of law. It appears to me that this overpowering thought is in Barbusse also.

War poetry has seemed to me poor. The best I have seen were some lines sent me from home which were said to have been found on the body of an Australian at Gallipoli. There was a fierceness about them that was genuine and direct. The French have a delicious vein of religious humour and there are two very tender and delightful pieces of that kind—"La Passion de notre Frère le Poilu" in Angevin patois, and "Le Retour," by Lucien Boyer.

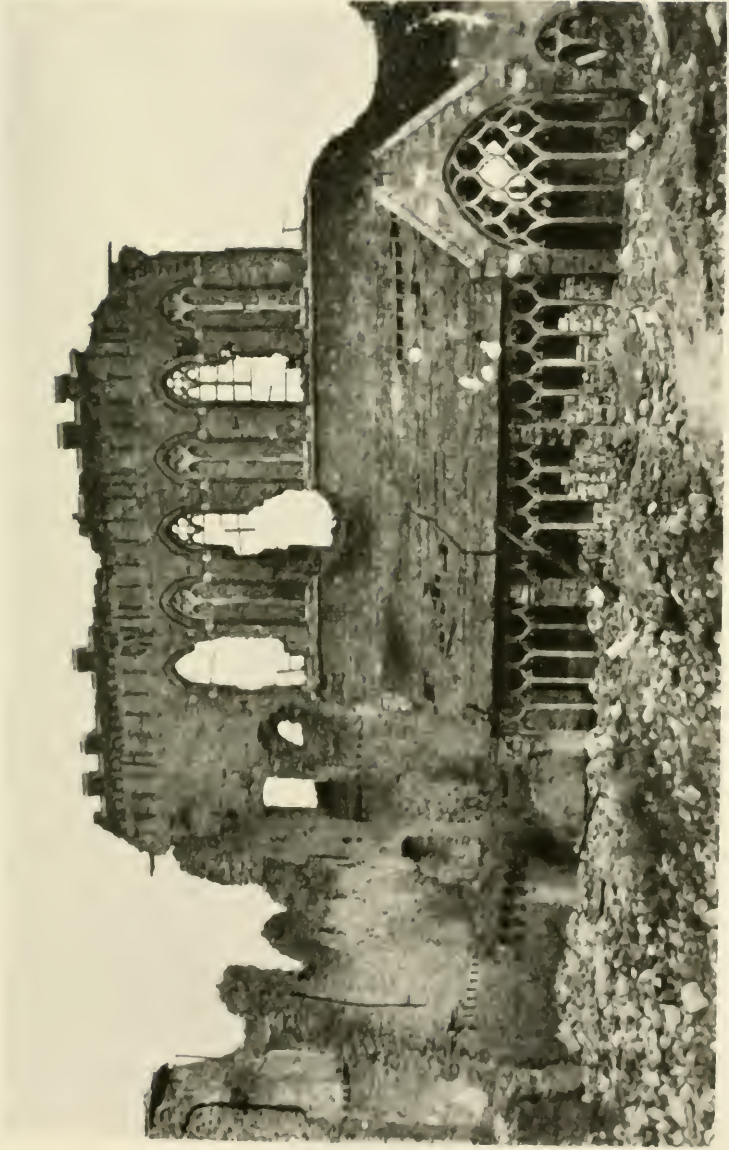
The spring of 1915 was a time of depression. No one but Lord Kitchener seems to have realized the magnitude of the war, and we had expected to attack when the summer began. But few troops came out and, worse still, very little ammunition. Batteries were in some cases, I was told, reduced to forty rounds a week. Even what ammunition there was was not wholly reliable. A battery of 4.7 inch guns had to be moved up to 3,000 yards because the shells were bursting short and killing our own men. It was at once heavily shelled, the C.O. wounded, and hardly enough men left to take the battery out. Under those circumstances the effect of Mr. Asquith's Newcastle speech was to produce a great sense of bitterness against the Government.

It was on April 22nd of that year that the Germans first used drift gas. We were at Bailleul in the morning, and hearing that there had been some disaster to the north, drove up to Poperinghe, where we learned that French troops had come through the town in a panic, and thence to Vlamertinghe, where in a Canadian Field Ambulance I found three Algerian soldiers. They said that the Germans had pumped some liquid or other on

to the ground and had then set light to it, creating a heavy white smoke which had drifted down on to them. Later and better observation showed that the gas formed a greenish cloud and was not ignited. There was at any rate no doubt about the result. The Algerian troops had bolted *en masse*, and if it had not been for the Canadians, who had at once turned out and marched to meet the enemy, Ypres would have been in their hands. The Canadians met them about Pilkem and stopped the rush, but that and the next few days were very bad for us. The Canadians and the Northumbrian Division suffered most. There seems no doubt that the Germans were not prepared for such a success. If they had had any large body of troops behind the gas they could have walked over the ten-mile gap between Ypres and the Belgian inundations. We suffered very heavily as it was, but almost entirely from the guns, which the enemy were able to push forward behind the salient we held in front of Ypres.

I did not see any asphyxiated cases among our troops that day, but on April 24th there were hundreds of them in the hospitals, and still greater numbers of men who were not so badly affected were sent down to the Base. There is no need to dwell on the horrors of that day; none who saw that scene can ever forget it. The attacks were repeated up to May 23rd, when the wind became unfavourable for the enemy.

The Germans took elaborate precautions with their gas. They had in every trench a meteorologist, whose business it was to study the wind and the air currents in that particular trench. On some days they had to report every half-hour to H.Q., where the head meteorologist was, and he had the entire direction of the gas attacks. The engineer officers who handled the ap-



CATHEDRAL REMAINS AT AYLES.

paratus were required to consult the local meteorologist on every occasion.

It was imperative to protect the men against such attacks in future. The first step was to find out the nature of the gas used. We followed various clues which failed. But there were many in the Army, both officers and men, who had a knowledge of chemistry, and some of these had been in the way of the gas. They were clear that the green colour and the irritating properties were those of chlorine. This is a heavy gas much used in manufactures, and for that purpose it can be condensed into liquid and stored in strong metal cylinders such as are used for oxygen, in which it is under considerable pressure. On turning the tap the liquid issues in a white vapour which quickly expands into the green-coloured gas.

With the help of the wind this gas drifted along the ground, expanding as it came, until it formed a wall which by some was said to be forty and by others twelve feet high. The height probably depended upon the distance of the trenches, for the gas would tend to diffuse as it came. Local conditions of the atmosphere or obstacles would probably affect it also.

When the gas, which came to be called drift gas to distinguish it from the gases sent over in shells, reached a hollow like a trench, it rolled into it and, being heavier than air, stayed in the bottom. But the main body of the gas passed on, borne by the wind.

Many victims said that the gas, when inhaled, produced a feeling of listlessness and a desire to lie down. This was highly dangerous, since the gas lay in the floor of the trench. It was equally dangerous to run, for in addition to shrapnel, which was poured upon them, those who ran, ran with the gas, and were the longer

exposed to it. To stay still and to stand upright was the safest course, and those who did so frequently had their reward. For the Germans, after an interval, followed the gas, expecting to find our trenches empty, and those battalions who stayed beat them back with great slaughter.

At once the means of prevention were sought. The easiest form of protection was by respirators, and thousands of these were improvised. They were at first of the simplest kind, mere pieces of flannel or cloth wetted and held over the mouth and nose. These, being of no use, were as fast as possible replaced by pads of cotton waste impregnated with a chemical antidote and folded in muslin netting. These, again, were supplanted by a helmet of cloth, with gelatine windows for the eyes and loose ends to be tucked into the collar. The whole helmet was treated with the necessary chemical. These took much longer to make, and we had not sufficient to equip every man in the battalions even so late as the end of July.

The military effect of the gas was at that time serious. It was the means of our losing a considerable tract of ground, and it created panic both among the African Corps of the French and among our own men later. But it exasperated the soldiers. They fought more fiercely and more mercilessly afterwards. English soldiers are good-natured, and though they do not mind fighting, they bear little ill-will to their enemy. But treachery, as in the abuse of white flags or the Red Cross, both of which were practised by the Germans, cruelty to the wounded, of which they had good evidence when in the counter we returned to trenches we had lost, and methods which they think unfair, such as this, fill them with a fury which bodes ill for those with whom

they fight. There was little complaint after this time that the men were too familiar with the enemy opposed to them.

A chemical laboratory was set up at G.H.Q. under Lieutenant-Colonel Watson, an Assistant Professor in the Imperial College at South Kensington, which became the centre of all analytical work in France on offensive gases used by the enemy and for testing our own protectors. Another able chemist was extracted from the trenches to assist him. Watson died in 1919, and his death was a great loss to science. He was a brilliantly clever man.

When the Germans next attacked, which was in December, 1915, they used carbonyl chloride, or phosgene, which is of the same nature as chlorine, but more poisonous. But our protection was by this time fairly efficient, and though the casualties might run to three or four hundred at a time, they never again ran into thousands until the "mustard gas" was used in July, 1917.

The Germans defended the use of gas on the ground that it was no worse than shells, and that all offensive measures are justifiable in war. Other nations did not think so, and it is another instance of the wide difference between the standards of Germany and those of the rest of the world. Froissart says that German knights were less generous and more cruel and mercenary than those of other nations, and their descendants maintain this character to the present day. After I came home in 1919 I heard that the chemist of some northern firm of manufacturers, while travelling in Germany in 1909, was aware of a curious smell in the air, and on walking in the direction from which it came saw a number of German soldiers on a piece of rising ground apparently

doing something to a number of sheep, several of which lay dead upon the ground. He and his companion were at once warned off. This was probably an experiment in the use of gas for offensive purposes.

The cloth helmet was replaced in 1916 by a much more efficient apparatus, the box respirator. It had a mask with eye-pieces fitting closely from the forehead to the chin, and a flexible breathing-tube which drew in the air through a layer of various chemical substances enclosed in a light box which was slung round the neck. When the men had it they were safe from phosgene, and, as far as their eyes and lungs were concerned, from "mustard gas" also. But there was always room for accidents. The Germans took to sending the gas over in shells, which when used by themselves could be distinguished by their way of bursting, but were usually mixed in with high explosives so that detection was almost impossible. At other times a bombardment began when the men were asleep, and they did not wake up until the gas was on them. I first heard of shell gas in December, 1915, but I first saw its effects in July, 1916, when during the Somme battle a party of K.R.R.'s were brought in very badly poisoned with phosgene. Their sergeant told me that during the afternoon they had noticed that many of the German shells did not explode as usual, and had remarked what bad stuff they were using. They were then lying in the open, but a little later he moved the party into a covered shelter, and almost at once found that they were poisoned. The gas had collected there.

At a later date the gas shells were used by thousands at a time, and once at least in 1918 we suffered severely owing to the blowing-up of a large dump of gas shells which the retreating Germans had left behind them.

When, however, they got fairly on the run they had no leisure to arrange gas attacks, and I saw very few cases.

In July, 1917, the Germans developed a new form of gas offensive by means of what we called "mustard gas." It was first used on the night of July 13th-14th, and led to about three thousand casualties. The next attack was on July 21st, and produced about four thousand. The first was north of Ypres, the second in the Nieuport area. The poison, which is dichlor-ethyl-sulphide, is a brown liquid with a slight but rather pungent smell, which by the explosion of the shell containing it was scattered in the form of a minutely subdivided cloud. It inflamed the eyes, entirely preventing their being opened, and it scorched the skin and the air-tubes, eventually setting up septic inflammation of the lungs. The worst of it was its penetrating quality. It went through cloth and flannel directly, and through gaiters and the upper leather of boots. It was very stable and hung about the ground for a long time. Unless there was wind or rain to decompose it, it could render a position untenable for a fortnight. Orderlies tending those affected were liable to suffer, and were given india-rubber gloves in consequence, and, where they could be got, waterproof overalls. It caused the eyes to water and the lids to swell so that men were forced to go back because they could not see. In hospital they had to be led about for the first three days. Long strings of them might be seen all holding hands and led by a patient who could see. Cases of permanent damage to the eyes were, however, very rare. Horses suffered far more, and many lost their sight from it. It was used in increasing amount up to the time that the final German retreat set in.

We had phosgene ourselves in 1916, and were the first to use it in projectors, by which we could throw a large amount on a given spot in the enemy's lines. We had in October ample evidence of the severe effect which it produced. We were a long time in discovering how to make mustard gas in large quantities. But on August 7th, 1918, I saw an order of Ludendorff giving directions about our mustard gas, which showed that it had not only come into use, but was doing great damage to the enemy.

Besides the respirators against the gas, the soldiers were also given steel helmets to protect their heads. They were a great success and saved many lives. Protective armour was suggested for the trunk, but the weight was a fatal objection. The soldier carries 68 pounds, besides the clothes and boots he wears, which weigh at least 12 pounds more. If his things are wet the weight runs up to 100 pounds, and that is more than anyone should be asked to carry. It was impossible to increase the load.

CHAPTER XXII

MANY INVENTIONS

OF the various methods of attack, I have been told that bombing was the most terrifying. As it was the only attack to which we in the rear were exposed, I have no means myself of comparing it. But Clearing Stations, Divisional Headquarters, and troops all disliked it, and confessed that they disliked it, worse than shelling. If you have ever seen partridges under a kite, it fairly represents the feelings of human beings under a "dove." However, they are as well known in England as they were in France, and there is no need to describe them. We were bombed several times at St. Omer, and one Taube dropped thirteen bombs, of which one fell close to our hotel. Several persons, including women and children, were killed or maimed, but I believe that only one soldier was ever injured there; and though a few private houses were wrecked, no damage of military importance was done. That was not the case elsewhere. On three occasions there was great destruction from this cause, and on several occasions there was considerable damage and loss of life. In 1917 and 1918 bombing by night became the fashion, and was a serious danger. A good many hospitals were hit, but, except in one instance, I do not think the bombs were meant for them. In the first two years of the war railway facilities were obtained with great difficulty, and we were in con-

sequence obliged to put hospitals, stores, and reinforcement camps together wherever railway accommodation could be had. In bombing the two latter the Germans occasionally hit the hospitals. Etaples was very badly bombed, and one of the Canadian hospitals lost a large number of its personnel, including some nurses. That it was not meant for them was no consolation. There was great consternation among the fisher-folk, and both they and the hospital staffs took to sleeping out in the sand-dunes and woods away from the hospitals, while the latter were emptied as far as possible of patients. No one was in greater panic than one or two wounded German aviators whom we had somehow received there. They knew that another attack was timed for a day or two later, and were extremely anxious to be shifted. But while these and other hospitals were probably bombed by mistake, no such explanation can be given for the attack on No. 3 Canadian Stationary at Doullens. It was in the old citadel, which was no longer used for military purposes, but in civil life was a reformatory, and had been a hospital for eighteen months. It was marked with red crosses on the roof which were easily visible by aeroplanes and showed clearly in aerial photographs, and it had been there so long that it was well known to the German Air Force. On the night of May 29th, 1918, it was half destroyed, with much loss of life, by a German airman, who first illuminated it by flares, so that he must have seen the red cross, and then flew over it and back again, dropping several bombs. The citadel lay outside the town, and a long way from either the railway or the stores. This was a calculated and deliberate attack upon a hospital, and an inexcusable piece of brutality.

In order to avoid the fragments of bursting bombs,

the hospitals in most places built earthworks about 3 feet high or parapets of sandbags round their huts and tents, and dug caves for the sisters to take refuge in. Where they were on a dry and suitable soil they sometimes excavated the wards to a depth of $2\frac{1}{2}$ or 3 feet, so that the patients lay below the level of the surface and were quite out of the reach of splinters.

As a large new railway junction was made at Hesdin just outside our garden, we were always expecting bombs. The aeroplanes often came over and dropped bombs about the country, but only once near enough to break our windows. On that occasion the least perturbed person in the house was Madame, who flatly refused to leave her bed. I was writing in the library, and promptly placed myself upon the floor flat on my stomach. It is the sensible thing to do, but you do not feel heroic when, after waiting in vain for something more to happen, you get up again.

In the summer of 1918 we developed at the front an admirable combination of searchlights and high night patrols which was very fatal to Gothas. I was told we had brought down twenty-eight of them in twenty-one nights.

There was an alternation about the air fighting. At one time we would be a good deal the best, then the Germans would invent a new and better machine, and then we would beat them again. We were better in machines at the end, and though the Germans had some very good performers, our men were, on the whole, superior in flying and a good deal more daring. For long spells—indeed, almost all the time after early in 1916—the Germans were so far inferior that they hardly came across our lines by day. In the Somme Battle that year, letters found on German officers and men

were full of complaints that, while our men gave our artillery every possible help in ranging and shooting, with terrible effect, their own service did not even attempt it. They must have had very little information from the air during the last two years.

There were three ways of locating enemy artillery. The first was by direct aerial observation and photography. It is often difficult to see guns, for they can be easily hidden by screens, but it is much harder to conceal the tracks leading to them. It is they that usually show the position. Partly to avoid this, and partly for protection, the batteries were often approached by covered ways. A second method was by observing the flash at night along a series of points. When the angles are taken, the distance is easily determined. A third and more elaborate method was by sound. In this case the observing points contained microphones which registered the waves produced by the guns and transmitted them automatically to a central receiving station, where they appeared on a recording drum at slightly different intervals according to the distance of the microphone from the gun. The calculation was made from the difference. The different kinds of gun could be easily distinguished, as they produce different waves. I was told that this system had been originally invented by one of our own R.E. officers, and rejected by the War Office at that time, but taken up again when we found the French using it during the war.

Our greatest invention was no doubt the Tanks. They were first tried in small numbers during the battle on the Somme, and there were several derelicts on the ground about Puisieux. They were again tried in the Passchendaele area, but the ground there was so unfavourable that they greatly lost credit, and were only

rehabilitated at Cambrai, when for the first time they showed what they could do. They were brought up with great secrecy, and were largely responsible for the success of the attack. Tank officers have told me that they were saved from condemnation by the Cambrai operation.

They were of three kinds—male, female, and whippets. The first carried two 6-pounders and two machine guns, the second and third four machine guns. The third was a light and fast machine. The make of their machine guns and also their engines was altered and improved as time went on, and since the armistice the improvements have been even greater than before. The larger types carried crews of seven men and an officer. There was very little room, it was very hot, and there was a good deal of petrol fumes, exhaust fumes, and carbon monoxide from the guns, which occasionally caused casualties. In hot weather each Tank was a small hell upon earth. They could flatten barbed wire as nothing else could, they could deal with trench resistance and machine guns effectually, and they were terrifying. It was enough to frighten anyone to see one of these immense tortoises waddle up to an apparently impassable sunk road or excavation, quietly tip itself over the edge head foremost, disappear into the hollow, claw itself up the opposite bank, however steep, and reappear imperturbably on the top. The Germans tried to stop them with great rifles like duck-guns carrying a large armour-piercing bullet; but these were seldom used, perhaps owing to the damage they did to the men who fired them, and only once with success. There was a picture in the Royal Academy this year which gave a faithful rendering of a part of a trench, a Tank, and a German with an anti-Tank rifle.

Field guns which came up far enough and stayed long enough would stop them, but it meant the capture of the guns; and minefields, when sown, were declined with thanks by the General of Tanks, but were so difficult to lay that they were rare.

On one occasion in 1916, when we first used Tanks, the Germans pounded them with some field guns which they brought into the trenches. In order to discover their position the Canadians built a dummy Tank, which they moved with a system of ropes. It successfully drew the German guns, which were marked, and promptly smashed by our own. The dummy was afterwards preserved at H.Q. Fourth Army.

In our advance of 1918 the Tanks played a new and most important part. It had been our custom to prepare an attack by a long previous bombardment in order to destroy the enemy's wire and to lower his moral. This gave him a long warning both of the situation and of the strength of the coming attack. In 1918 all this was altered, and a complete change in tactics introduced. About August 1st, Tanks in various parts received orders to entrain for an unknown destination, and at the moment the train started the Commanding Officer was given a sealed packet of instructions. While it was still dark he detrained, and proceeded to a wood indicated, where he hid his Tanks and his men. Night by night he moved forward, slowly in order to prevent noise and over hard ground to avoid leaving tracks which aeroplanes might notice, until on the night of August 7th he arrived close behind our own lines. Up to this time no bombardment had taken place, but at zero, which was about five in the morning, the guns crashed out in an awful storm of shells, and simultaneously six hundred Tanks passed the lines and made

for the enemy. In sections of three, a leader and two supports, they crossed the German wire one behind the other, leaving two tracks sufficiently crushed down for the Infantry to follow in single file. Turning left-handed on the near side of the first enemy trench, they travelled down it, clearing it by their offside guns until they reached the first communication trench. Crossing the fire-trench, they worked up the communication to the second fire-trench, where they turned right-handed again, clearing it to a point opposite their original position, and then pushed forward, repeating the same movements. Thus each section advanced by right-angled turns across a given strip of ground, clearing the way for the Infantry. The guns lifted gradually as the troops advanced, and so complete was the surprise that, while some Tanks ran into a German Corps Headquarters breakfast lying ready laid but still uneaten, and others captured a supply train and locomotive with steam up, the general line advanced that day to the Divisional Headquarters of the enemy, and the Cavalry farther still. The extent of the advance so far prevented communication and led us into country so little known that one battalion of Tanks was led on August 10th and afterwards by a Commanding Officer on horseback. The first had three horses shot under him and lost an arm; his successor was also killed in about a fortnight, and the third not long afterwards.

In retreating the Germans left not only delayed mines, one of which did not go off for a whole month, but also laid traps such as a box of cigars, a revolver lying in the road, and similar things, which when touched produced an electrical contact that fired a hidden mine. Latrines also were used for that purpose, but the most horrible was a corpse left in the operating-theatre of a hospital

which exploded when our orderlies tried to take it away for burial.

We had a regular business in "camouflage" or concealment of various kinds. Mr. S. J. Solomon, the artist, came out when we were still at St. Omer, full of schemes for the purpose, and though I did not see him again, I believe he was at the head of this industry throughout. Everything used at the front was painted in various colours to prevent a distinct outline, and many natural objects were counterfeited to provide hiding-places for observation.

Our gun-shooting seems to have improved greatly during the war. I found one day the Commanding Royal Engineer of an Army in hospital, and when we began to talk we discovered that we were old school-fellows who had gone up Winchester together neck and neck. He had been looking at the German gun positions after the Arras fighting in 1917, and told me that in one battery every single concrete emplacement had been smashed, and the covered way for bringing up ammunition had been destroyed also. The improvement in our gunnery since the Somme fight struck him as remarkable.

There was a great deal of mining in this war. It is an old art, for the Black Prince had a mining company who blew up the walls of Limoges; but in this war it was far more extensively employed than ever before and the explosives were no longer gun-powder, but compounds of ammonium nitrate. It was dangerous and anxious work. Each side mined, and sought continually to destroy the mines of the enemy and to defend its own. Many months before the Messines battle of 1917 we had driven over eight thousand yards of gallery and had laid many huge mines, which all needed watching and

guarding until the time came for the attack. There were various devices for detecting the enemy's operations. I once found an Australian officer who was a Professor of Geology and an intrepid Antarctic explorer devising in the Central Laboratory an ingenious little instrument for the purpose. Shortly before I met him the Australians had let him drop down an 80-foot well; but though he was a man of about my age and was much hurt, he made his observations at the bottom and while he was being hauled up again. The best instrument, however, was a modification of the stethoscope. It needed skill and experience, for different soils, like different conditions of the lung, alter the conduction of sound. Chalk, like pneumonic lung, conducts well, loose strata badly. The scale had therefore to be found for each gallery by experiment. But the results were surprisingly accurate. An officer told me that in spite of the automatic pick which the Germans kept at work to confuse our observation, he had traced the driving of an enemy's mine which at first ran parallel to and then turned and passed under his own, had estimated its distances, had even mapped out its sidings and dug-outs, and had been able by actual survey after its capture to prove the almost exact truth of the plan he had drawn of it.

Explosions produce carbon monoxide, which when inhaled is highly poisonous, and other gases which when mixed are liable to ignite. They were formed from our own charges and percolated through the soil from those of the enemy. To meet these dangers mine-rescue schools were formed in which the men were trained by repeated drill, first to wear the safety apparatus; then, while wearing it, to carry out such work as clearing a gallery, or recovering bodies from a mass of fallen rubbish, which is needed when an accident occurs; next, to per-

form artificial respiration and administer oxygen; and lastly, to transport the patients, who were often unconscious, on various forms of stretcher to the shaft. It was even sometimes necessary to continue mining in a gallery filled with gas. Shifts of the rescue men wearing safety apparatus were then employed in hewing.

We exploded two enormous mines in the southern area, one at Pozières, the other, still larger, at Beaumont Hamel. I could throw a stone about halfway across the crater of the latter, which was 70 feet deep. It was like a large quarry. In the attack on Wytschaete and Messines in 1917 we exploded nineteen very large ones. A Bavarian officer wounded and captured that day took a very gloomy view of German prospects, but derived some consolation from the fact that "Thank God" we had "blown up a thousand of those damned Prussians." In that attack we also ran underground galleries to bring up reinforcements without exposing them to shell fire. Our miners were, according to mining officers, a good deal faster than the Germans, and our arrangements more skilful.

This war has been remarkable also for the use of the spade. Digging has always been a branch of the military art, and the descriptions given by Cæsar are surprising not only from the amount of work that was done, but from their resemblance to the lines of the present day. When he invested Alesia, a town on a hill close by the railway from Paris to Dijon, he formed lines which were eleven miles long. First came a ditch 20 feet wide with vertical sides. Four hundred feet to the rear he dug two more, 15 feet wide and 15 feet deep, which he filled with water. Behind them was a parapet 12 feet high, which was reveted, and strengthened with *chevaux de frise* and with towers which stand for our

“fortins,” or strong points. In addition, in front of these works, I suppose between the moats and the parapet, there was an entanglement made, not of barbed wire, but of five rows of sharpened stakes wound in and out with branches. In front of this were eight lines of pits 3 feet deep sloping to the bottom, in which a sharp stake hardened in the fire stuck 4 inches out of the ground. The holes were arranged in echelon 3 feet apart, and were concealed by brushwood. I saw exactly similar pits dug by the French near Watten. The Romans called them “lilies” because of their shape; the French name is “trous de loup.” Lastly, in front of these the ground was thickly strewn with a kind of calthrop made of an iron bar embedded in the ground with hooks sticking up. These the soldiers called “stimuli,” or, as we might say, “pick-me-ups.” I do not think we have used calthrops in this war, but they have been used in modern days. It must be remembered that the Gauls were either barefoot or very lightly shod.

This, however, was not all. Cæsar, fearing that the enemy would try to relieve the town, constructed exactly similar works in the rear of his camp, but these lines, being outer lines, were as much as fourteen miles long.

He had perhaps sixty thousand men with him, and as the town only held out for about thirty days, the whole must have been completed in less than that time. I have been sometimes tempted to think Cæsar a liar, but I suppose that is heretical. It is to be noted that the Italians are still the navvies of the Continent.

The French lines against Marlborough were strong and extensive, but I doubt if any digging since Roman times could compare with that of the present war. It has been enormous in extent and most elaborate in

character. The trenches themselves must have been many thousand miles in extent. Out of them the Germans first, and we when we had favourable ground, sunk steep shafts 20 feet or more in depth, at which level large subterranean chambers were constructed for the troops. The German shafts were lined with planed and well-fitted wood, and staircases were made in them. The air in the vaults became very foul, and a system of ventilation was erected to freshen them. They were death-traps if the trenches were taken, for there was no other exit, and the entrances had to be protected by hangings soaked with chemicals against gas, which otherwise flowed down into them. They also, I believe, tended to sap the spirit of troops which were kept much underground. But they were at any rate dry and of a fairly even temperature, neither hot in summer nor cold in winter.

I saw one at Beaumont Hamel which was of a different character. Into the reverse side of the hill which was protected from us ran a gallery 6 feet high and 200 yards long. On either side opened side-galleries in which were tiers of bunks. At the end was a small ante-room and a room so large that it was called a ballroom, with an exit by a staircase to the surface. It looked to me like a headquarters. It was lit by electricity and was perfectly fresh and sweet.

We too made great dug-outs in the hill country. I was told that on Mont Kemmel there was cover for three thousand men. But I had no lamp when I was there, and did not explore it.

CHAPTER XXIII

ODDS AND ENDS

WHEN I was a patient in hospital my next-bed neighbour was a battalion commander whose conversation combined amusement—for he was of the family of Flurry Knox—with instruction. Since it greatly interested me, I think it may interest others who, like myself, are not soldiers. Every Commanding Officer is first and foremost a teacher. Some years ago I met a distinguished General with whom I had played in my College eleven. We compared notes, and I told him that I had been a teacher all my life. I was a little surprised when he replied, "So have I." In this war not only was teaching continually beginning afresh for all new drafts on ordinary Infantry duties, but there were a number of special duties, bombing, sniping, machine-gunning, and so forth, which needed separate training of an elaborate kind. Teaching, therefore, was both never-ending and laborious. It was chiefly carried out when the Division was at rest.

Active work brought with it other cares. After a march the men's feet had to be inspected, washed and powdered, and fresh socks put on, before any officers could attend to their own wants. When they came into trenches it took fully twenty-four hours to settle down, and no one got any sleep the first night. After that he was very firm in his opinion that the sound

principle was to make yourselves comfortable and behave as much as possible as if you were at home. He insisted upon daily shaving, and was particular that the men's food should be as varied as it could be, and as well cooked. He himself expected to get fish once or twice in the week, and insisted that such things were a mere matter of a little arrangement. I remembered Montaigne's remark, "Je prends plaisir de veoir un général d'armée au pied d'une brêche qu'il veult tantost attaquer, se prestant tout entier et delivré à son diner au devis entre ses amis," and the opinion quoted from a fine regimental officer who was killed at Gallipoli that the art of trench warfare was the practice of the domestic virtues.

Rations were always good, and were plentiful until the last advance began. In 1917 our chief sanitary officers attended a conference on military dietary in Paris at which both French and Italians considered our scale of rations to be in excess of requirements. Our regular ration when the war began was $1\frac{1}{4}$ pounds of meat (including bone and fat), $1\frac{1}{4}$ pounds of bread, 4 ounces of bacon, vegetables, tea, sugar, jam, salt and pepper. A great deal was wasted or given away or sold, and accordingly rations were reduced to 1 pound of meat and 1 pound of bread, and butter was added. In 1918 the ration was reduced to $\frac{1}{2}$ pound of frozen with 3 ounces of preserved meat, 13 ounces of bread with $2\frac{2}{3}$ ounces of biscuit, and 3 ounces of bacon. The calorie value was 4,643 at first and 4,200 in 1918, less about 10 per cent. The calorie value of the French ration was 4,481, of the American 4,700, and of the German about 4,050.

The German ration contained about $\frac{1}{2}$ pound of meat. The French ration included a wine issue. The Italians,

who, I believe, had the shortest issue of the three, took a great deal of care with their cooking. If anyone reads "Le Feu" or "Gaspard," by Benjamin, he will see that the French cooking left a great deal to be desired. So did ours, but we instituted schools of cookery which were very good, very popular, and of great service in improving the art.

At the time of the last advance rations seemed to be rather short, and were certainly extremely difficult to get up to the front, owing to the distance from railhead. A high authority told me that many a day he knew the men had had no breakfast, and feared he could not continue the advance, but that the temper of the men was so fine and their eagerness to push on so great that he never stopped them. The lorries had to go fifty miles back and fifty miles up again to bring supplies, and they were every day diminishing in numbers. Even at the Base there was a certain shortage, both of supplies and of some kinds of equipment.

Civil rations in France were very short in sugar and restricted in bread. There was no butter in Paris hotels in January, 1918, though you could buy it in the shops, and at Hesdin we could always get it, though it cost as much as nine or ten francs the pound at that time. Bread was eighty centimes the kilo (2 pounds) in 1915, and one franc ten centimes in 1918. Eggs were five francs for twenty-six—it is always the baker's dozen for eggs—in 1915 and thirteen francs in the winter of 1918. In 1918 a fowl cost fifteen francs. These were prices paid by French people themselves in the area of our Army. They were no doubt affected by our demand. In June, 1919, in the Gironde new-laid eggs were still sixty centimes apiece, but butter was only six francs and a half and meat six francs a pound. There was

abundance of meat both in Paris and the country, though it was dear. Continental nations eat horse-flesh to some extent and like it. In towns of any size there is usually a shop where it is sold. The taste had its disadvantages, for the Belgians killed and ate my nephew's pony.

To return to my neighbour's stories. When the battalion attacked he used to explain to each company commander every minute detail, almost yard by yard, of the ground he would have to cross. Little ditches, a bush, a shell-hole, were objects that had each to be shown and noted. After the first line of the enemy is reached, knowledge of the ground is entirely taken from photographs, and as a bombardment has taken place in the meantime the surface is very different when the attack reaches it. No one but a soldier can realize what holes made by shells mean to an advancing line. We think of them as of a hole in the road that we avoid by passing to one side. But when you have seen a battlefield you realize that you cannot go to one side. The whole ground is a network of holes. Or we imagine that, after all, it is like stepping across a ditch, which if it is too wide to step can be jumped. We do not realize that shell-holes are about ten feet wide and almost as deep, and generally full of water. With a greasy surface and your rifle and equipment on, you could as easily jump over the moon. It is horrible ground to move over. The only advantage shell-holes give is to afford cover. Most advanced posts are in shell-holes, the men lying inside on the slope of loose earth, often with their legs in water up to the knees, to keep their heads out of sight below the edge and sometimes deeper still.

Various ways of going forward were tried and at a later period of the war, though the first line attacked

in extended order, the ensuing waves went up in Indian file, the leader threading his way through the labyrinth and the others following.

Military writers give the impression that an attack on an entrenched position is a rapid movement carried out at the double. It may have been so in former times, but it is not so now. In "Le Feu" Barbusse gives the only exact description that I have read of a modern attack. The chief part of it was a slow walk over very bad ground under a devastating fire of shells. Only in the last fifty yards did the pace quicken to a trot. Our regulation pace was eighty yards a minute, to keep just behind the creeping barrage, and when this was lengthened the pace remained the same. It was difficult in rehearsals to keep it slow enough. It is about the pace of a funeral march. An Artillery officer described to me an attack he had watched in Mesopotamia from the wooden erection he used for an observation-post. He said it was most impressive, but not from its speed. He could see a long line of black dots advancing steadily by sections through the deep sand. Some of the dots fell, many fell, but the line went steadily on like an inexorable machine, until when they came within fifty yards of the trenches the Turks broke and ran, and the attack quickened in pursuit. I once asked a well-known war correspondent what an attack looked like. He replied: "It looks like a geologizing party."

There is none of the excitement of quick movement, none of the passion of the struggle. It is a deliberate and determined slow walk forward, slipping in the mud and stumbling over things that you cannot see in the dim light, while the enemy rains death upon you from rifles and machine guns in the trenches, and from every

sort of gun in the rear. Men welcome an attack as the end of the discomfort and danger of their trench duty, but no one that I ever spoke to said that he liked "going over." The effort is almost beyond belief, and it is worse for the officers, since they have to set an example themselves and also to keep the men steady to their hard task. It is no wonder that over and over again the officers were almost completely wiped out. Everyone knows that one young officer dribbled a football in front of his men. It recalls Napier's story of Cloudesley Shovel getting off his horse to tighten his girths in front of a regiment which was being subjected to a very severe fire. The Duke cursed him for a young fool, but he excused himself by saying, "I thought, sir, the men were getting a little unsteady." Mr. Macpherson stated in the House of Commons that up to November 10th, 1918, the total killed was officers 37,876, other ranks 620,828—that is, one officer to every sixteen men. In a Division there are 589 officers and 18,522 other ranks, which is in the proportion of 1:31.4. Officers are therefore returned as killed at almost double the rate of other ranks, or in other words they run double the risk.

Communication is one of the great difficulties in a fight. Telephones are laid, but are often cut by the enemy's fire. When, as at Messines, the attacking force is under the brow of a hill, direct signals can be used. Usually the chief reliance is upon aeroplanes. They tell the H.Q. where the battalions are, and receive messages to be given to them. Sometimes the message is that the battalion is to disclose its position. Then the aeroplane blows its horn, the battalion sends up flares, the observer draws a line on his map, and flies back and drops it on H.Q. Signalling to

the aeroplane is done by white panels laid on the ground.

There was a system of communication by carrier pigeons, and I was instructed in the trade by a corporal who at home was a commercial traveller and a pigeon fancier. Just then his pigeons were tired out, for they had been having sometimes two flights a day during the German offensive of 1918. Some had been shot, and he declared that certain gallant troops killed and ate the pigeons sent them as messengers. The message is a piece of flimsy paper of the size of small note-paper, which is put into an aluminium cylinder about an inch long and fastened to the pigeon's leg by clips. He had begun to mate his birds in January, but breeding had been interrupted by the fighting. He fed them on maize, peas, and tick beans, and thought maple peas the best to fly on. The rest of my instruction came from the officers of a Flying Corps squadron.

They had an amusing mess. Two of them knew all about racing pigeons. I think they had been "jocks," or whatever takes the place of a "jock" to a pigeon. Anyway, they knew all the tricks of the trade. It seems that blood is just as important in pigeons as in horses, and that a winner of races is in great demand for the stud. There is a regular studbook, and though you don't enter your pigeon for the studbook while he is in the egg, as you enter your boy for Eton, you have to send in his birth certificate and get him entered directly he is hatched, as the ring which the Club gives you as a certificate of entry, without which he cannot race, has to be slipped on over the foot, and you cannot bend the hind-claw back to pass the ring on to the leg after the bird is nine days old. Their wireless expert was a man with a passion for wars, and had been in every war that

had been going since he was a lad. He had come from Honolulu to join up with this war. Their interpreter was a descendant of the Duke of Berwick, and therefore of the blood of Sir Francis Drake, as well as of the Churchills.

Both parties admitted that it was a very nefarious sport, but the corporal added: "What sport isn't? Look at whippets! I've seen a dog doped while he was being weighed. I don't know how it was done, but after six rabbits he began to run round in rings."

There were a number of dog messengers in the later years, and a regular establishment at Etaples for training them, but I never heard any details about their work.

Spies are a means of information in every campaign, and can always be had for money. At St. Omer I noticed one day two nice-looking girls dining at one of the tables. Two days later there was a hue and cry ("Huée et Cry" of old French law) after them, for the French had discovered they were spies.

I once witnessed the capture of a spy. I was coming home down a little hill. At the bottom was a tiny house, and down the opposite hill a two-wheel country cart was coming with the usual farmer and his wife. When they reached the little house, two men suddenly stepped out, one in plain clothes, the other in gendarme's uniform, and held up the cart. The man tried to push past, but in a second they had taken the reins off the bit and covered him with revolvers. They bundled him out of the cart and put handcuffs on him, and then they moved the cart on a few steps to let us get by, and thus put the woman out of their observation. I saw her face when she thought no one was looking. Great terror is an ugly thing to see. It was in the man's face also, but is more dreadful in a woman.

Her face was very pale, but the eyes were filling with tears, and the lips and nose were flushing as the tears came. The pallor of the rest was a great contrast. The lips were open, the eyes staring. I suppose thousands of women have looked like that up and down Belgium and France during these years.

There were many stories current of spies in our lines. Once I heard that an officer in English uniform had been lunching with several messes and making himself generally agreeable. At another time I was told of an officer, apparently of French artillery, on a black horse who was greatly interested in our gunnery. Twice he was received cordially, but as each of his visits was followed by the heavy and accurate shelling of his hosts, preparations were made for his next reception, which he frustrated by not returning. Another story related how one of our own gunner officers, going to report to H.Q., was inquiring the way, when he was given in charge by an Army Chaplain who suspected him of being a spy. He was taken off to the A.P.M. who was at the H.Q. to which he wished to report, and had just been discharged, when the Chaplain met him again, and again got him arrested. When the matter had been a second time put straight, the sergeant respectfully suggested to the officer in charge that he was not quite sure about the Chaplain. On one occasion we winged a German flying man, and as there was always good feeling between these services, one of our Flying Corps called next day at the hospital and offered to drop a note on his aerodrome to tell his friends that he was alive. The German thanked him, but said it was not worth the risk. If, however, he would be so good as to let anyone in Lapanne know, his aerodrome would get the news in two or three hours. Lapanne was the

Belgian H.Q. and the residence of the King and Queen.

Our own intelligence was very complete, and we once captured an order of Ludendorff enjoining the strictest secrecy, because our information was so good.

CHAPTER XXIV

RED TAPE

WHEN we were in Hesdin we had a soldier servant. He was a skilled clerk who had volunteered immediately on the outbreak of war, had served a year with the Royal Fusiliers at the front, and had then been sent to hospital, for chronic disease of the frontal sinus, and classed as "Permanent Base" on account of it. When an outcry was raised about the number of men who were taken off the strength in order to provide servants for officers, I asked him what happened in his battalion. He said that only two men in the battalion were excused on that score from trench duty, and that no one wanted to be an officer's servant, because, though it increased the pay, it increased the duty also. An officer is so much engaged in taking care of other people that he requires someone to take part care of him. He cannot do both himself. As this man was on the one hand permanently unfit and needed special treatment, and on the other was much too valuable a man to be merely a servant, I suggested that he should be recalled for work in his own branch at home. This was done, but between muddling at home and muddling in France it took about three months to get his papers through. He had been trained in a big business house, and had also been employed in military offices in France before he came to us. He told me that from what he had seen of Army filing

methods he was astonished, not that they lost some papers, but that they ever found any.

We constantly declaim against the dilatory character of Government work, and are apt to ascribe it to the slackness or stupidity of Government officials. That I believe to be wholly unjust. The fault is not with the persons, but is inherent in the conditions under which they work. In the first place, the Army is by far the greatest business firm in the country. It employed in this war something like five million men, and it not only pays them their wages as other firms do, but in addition clothes them, feeds them, houses them, transports them long distances by land and sea, treats them medically and spiritually, pensions them, compensates them and their dependents, and, if need be, buries them. It manufactures or buys every conceivable thing in enormous quantities. It builds and repairs houses, huts, roads, bridges, railways, every kind of vehicle, and even barges. It owns thousands of horses and mules, and many hundreds of camels, dogs, and pigeons. It is a world in itself, and it is difficult to understand how business can be carried on at all on such a vast scale, and difficult to realize how good the organization must be in order to accomplish it. It is quite true that any business should avoid mistakes, but no business ever does, and the enormous multiplicity of military business necessarily increases the number of mistakes. The wonder to my mind is rather that they are so few.

That is one side of the question. But in addition the Army is a business minutely responsible to the public, and the strict account which is exacted of it obliges it to maintain the most elaborate system of justification which it can devise. Any Member of Parliament can

question the Minister in the House, and any member of the public can attack him in the Press on the smallest personal grievance or the most trivial detail of administration. The Minister has to show that each subject raised was fairly considered and discussed in all its bearings by persons in such a position of authority as will satisfy his questioners.

The result is that an immense number of forms are required, and an immense number of reports have to be made, for mere purposes of record, which even to Regulars are a burden, but to civilians would be infuriating.

In my own branch, for example, when a man is brought in to a Field Ambulance he has his number, name, rank and regiment noted, and the nature of the injury or disease for which he is admitted. His religion also has to be recorded, because if he is dangerously ill a minister of his own creed should visit him. When, either there or at a Clearing Station, he is given the comfortable hospital uniform, his kit has to be taken and labelled, and his valuables are handed in and entered in a book under the supervision of an officer. The date of his admission and that of his discharge must both be entered. It is obvious that not one of these necessary items can be omitted at any one of the hospitals he passes through.

Every morning, again, and, during a fight, several times a day, a return has to be made showing the number of patients in hospital, how many are fit to travel, and whether these can sit up or must be carried lying down. This is necessary to arrange for transport.

Again, the patients have to be fed, and, in consequence, every morning Supply must be notified how much meat, bread, and so forth, is needed. This necessitates the keeping of two sets of forms in the hospital

because the diet-sheet is not a half-pound of meat, a half-pound of bread, and so on, for each patient, but Diet 1, Diet 2, Diet 3, and such extras as the officer orders.

Then the equipment of the hospital itself—stretchers, blankets, hospital uniforms, instruments, dressings, bowls, basins, every sort of thing, has to be maintained, and if it is worn out or broken a return has to be made before it can be replaced.

Lastly, the hospital accounts have to be kept, the pay of the personnel and the local bills all noted, and money drawn from the Field Cashier to settle claims.

I do not know what the clerical work of a battalion amounts to, but I remember a Colonel once telling me that the most necessary part of an officer's education was the knowledge of how to keep accounts.

Some of these innumerable records are needed for the satisfaction of the patients' friends, some for the administration of the hospital, and others to ensure against waste. Every one of them is justifiable, and there is hardly one that could be omitted. In addition to all these, other returns are continually required to show the prevalence of infectious disease, and whenever some special illness excites interest, such as nephritis or trench fever, returns are demanded of that, and must be demanded if the disease is to be understood and ultimately prevented.

Then again, in order to justify expenditure the most elaborate authorization is required. If the hospital requires new thermometers the C.O. has to certify that those he had were broken in use or captured by the enemy. He is not allowed to lose any himself. But if anything is required that is not in the schedule of its regular equipment the difficulty in obtaining it is extreme.

The course of such a request was sketched out for me in conversation by an officer who, though inclined to be critical, certainly knew the details of administration. He instanced an indent drawn by an enthusiastic C.O. of a Field Ambulance for some article which he thought would be of great service to the work of his unit, but was not in the regular equipment. It goes to the A.D.M.S., who endorses it and sends it to the G.O.C., who passes it to the Corps, which hands it to the D.D.M.S., who endorses it and sends it to the Corps Commander, who passes it to the Army, which hands it to the D.M.S., who endorses it and sends it to the Army Commander, who passes it to G.H.Q., who forwards it to the D.G.M.S., who endorses it and sends it to the C-in-C., who passes it to the Q.M.G., who writes to the D.G.M.S. asking why, if this Field Ambulance is allowed the article, all Field Ambulances should not have it. Is it necessary that they all should? If not, why not? Cannot this one discontented unit get along without it? Whereupon the documents, which by this time number about a dozen, are labelled P.A. (put away), and the sea grows calm again. That is perhaps a slight caricature, but it is not far from the real course of events.

It was here that the Red Cross came in, and I do not know what we should have done without it. At the beginning of the war it provided practically everything for which it was asked. I know it provided a motor-car for a Consulting Surgeon; I know it provided a wedding-dress for an unlucky bride who lost hers on the way to Switzerland, whither she was going to be married to a prisoner invalided out of Germany; and I know it provided every single article of use or comfort for which request was made by responsible persons. At a later date it was by rule restricted to such things as Ordnance

did not stock. But a certain discretion was left to its officers, and many a time when the need was urgent the Red Cross supplied at once articles that Ordnance would have taken two months or more to furnish. It never stinted, it nearly always had the things in stock, and it could obtain what it had not got in hand with ease and speedily. The patients and the Medical Service owe it a debt which can never be sufficiently acknowledged, and the public, if it likes, can learn a lesson from it, for it can here contrast the working of a Government Department and a private business covering much the same ground.

Government management is necessary for all matters, such as sanitation, which, while advantageous to the public, produce insufficient profit to attract private capital, and is useful for keeping up the standard of certain civilian work, such as education, in which the temptation is to save the rates at the expense of the country. The Post Office has been well managed, though it has been much criticized both for its negligences and for its ignorances, and appears now to be run at a diminishing profit. The Telephone is usually said to be the worst in the world, and is the laughing-stock of Americans and Canadians; it certainly is exceedingly bad. The Navy and Army are the best examples of Government management, but the methods of the Army at any rate are wholly unsuitable to ordinary business.

Further, the system of promotion in a Government Department is necessarily based on seniority, since once in an office a man stays there for the rest of his life, and it would be unjust to deprive him of the natural reward of long service, except for some considerable fault. The general level of work is very even, and selection for merit almost impossible. It was attempted

during the war in the R.A.M.C., where it should be comparatively easy, and created universal discontent. The selections were severely criticized by every officer to whom I spoke, and gave rise to widespread suspicion of favouritism, which no doubt was unfounded. Some of the decisions were such flagrant mistakes that they had to be corrected afterwards. The chief reason why a soldier welcomes war is that it upsets routine, and may give him the chance to show what is in him. For the same reason he volunteers with readiness for the most dangerous and unpleasant duties. A civil servant hardly ever gets these chances, and his whole life is spent in an atmosphere of routine and subordination, which deprives him of the versatility and energy, and, above all, of enterprise, on which success in business depends. Seven hundred masters will ruin any property, and public control inevitably causes parsimony where an intelligent owner would spend freely on experiment, and delay where quick decision is vitally needed.

It has been claimed of late, as though it were something remarkable, that those employed in public offices feel a devotion to their task. Rather would it be remarkable if they did not, for almost any occupation produces that feeling in an honest man. It is not, however, possible to use it as an illustration of disinterested labour when compared with private employ, for the great majority of mankind work for regular wages, whether for private or public masters, and neither look upon the latter as more noble than the former, nor claim a lesser reward for it. They leave it if they see better prospects in private employment, and they rightly consider good work as honourable and as useful to the world in the one as in the other. In my own profession, which has as high a moral standard as is

usual among learned professions, there has been a great deal written and said during the last year or two upon what is called a State Medical Service, but the arguments urged in its behalf have been chiefly drawn from the supposed advantages which it will offer, not to the patient, but to the doctor.

This question of a State Medical Service is confused by the different senses in which the phrase is used. Some mean by it that the State, besides co-ordinating the medical services at present performed by various public Departments, should also expand the Insurance Act by providing, in addition to the ordinary treatment of the poor, consultation with experts, increased hospital accommodation with payment of the doctors, and greater facilities for the scientific assistance that can be obtained at laboratories. All these things have long been desired by medical men, and now that the public is at last beginning to understand what we have been dinning into its ears for half a century—first that public health is public wealth, and next that the encouragement of pathology is necessary for the improvement of treatment—these changes seem to me the natural corollary of the policy already begun.

Others mean an elaborate system of the military type, according to which the whole population would be divided among a body of general practitioners, who would be Government officials at a regular salary, controlled and supervised by a Headquarters Staff of superior rank. That would, I think, break down on two points—the public preference for doctors of their own choice, and the impossibility of any satisfactory inspection of private practice. A man would be judged by the returns he sent in rather than from his care or skill in treatment; for while the former are easy to

criticize, there is no way of judging the latter. Inspectors have forgotten practice too much to act as critics. While I am actually writing these words I have received the current issue of the *St. Bartholomew's Hospital Journal*, from which I extract the following specimen of the kind of official criticism on which a man's reputation will depend.

A STATE MEDICAL SERVICE.

REPORTS AND RETURNS.

BY A CAPTAIN IN THE R.A.M.C.

The following is an example of what much of the work consists of in a State Medical Service:

Reports and Returns.

2626/29(D.M.S.5).

ARMY HEADQUARTERS, INDIA,

MEDICAL BRANCH, SIMLA,

October 19th, 1918.

From THE DIRECTOR, MEDICAL SERVICES IN INDIA,

To THE MEDICAL OFFICER IN CHARGE OF PRISONERS
OF WAR CAMP, HOSPITAL, _____.

Memorandum.

With reference to the monthly return of sick for Turkish Prisoners of War for September, 1918, it is pointed out that the causes of deaths shown marginally is not considered sufficiently explanatory for statistical purposes.

Attention is invited to this Office letter No. 17243-15 (D.M.S.5) dated the 26th February, 1918.

(Signed) _____.

Lieut.-Colonel, R.A.M.C.

For Director of Medical Services in India.

Reply.

No. _____, Civilian, _____. Drowning (accidental).

Kindly note that this death should be returned as No. 1030 (a), Suffocation from submersion.

Kindly correct your office copy accordingly.

There will be, on the other hand, great discontent among ourselves, for the pay cannot be large, and promotion will be slow. And, moreover, a system of routine subordination will certainly destroy the initiative and readiness to accept changes and improvements without which Medicine cannot advance. An atmosphere of obedience suffocates science.

CHAPTER XXV

THE TURN OF THE TIDE

ON August 4th, 1918, the anniversary of the declaration of war, we attended the First Army Church Parade. It took place in a large park between two banks of great elms, on a fine day, and was very impressive. The Bishop preached, and then the Army Commander made an address. The latter won easily. He said, among other things, that August 4th had every year hitherto seen the initiative with us, and it would be so now.

On July 18th Foch had made the stroke described to me by one of our Army Commanders as the greatest feat of generalship in the war, in which, leaving the point of the salient to look after itself, he flung his attack on the enemy's flank, and so learnt at once that the Germans had used up their reserve. The Germans have given various dates as the turning-point. Some told us that their inability to defeat the Third Army on March 28th showed that they had failed. Ludendorff himself said that our attack on August 8th proved to him that Germany could not win. But though March 28th stopped all hope of German advance in the Amiens salient, and though the battle of August 8th was an extraordinary surprise and success, yet July 18th was the day for which we had all been breathlessly waiting. In the autumn of 1917 we knew that the menace was

terrible, and that if the Germans brought all their strength against our front we should have an awful struggle, but we believed that we should just hold out. I remember writing home that if I were the Germans I would not attack our front, but would turn south, overrun the Balkans, open a new base for submarines in the Mediterranean, and cut our communications. Strategy is not my strongest point, though I daresay I was quite as wise as some of the critics. But we none of us knew how near Germany was to breaking, nor how vital to her was the earliest possible decision.

Then came the blow, greater even than we expected, and the Army, without reinforcements from home, holding everywhere too long a line, holding just there a line of forty-five miles, which there had been too little time to prepare, with fifteen Divisions reduced to nine battalions each instead of the regular twelve, was beaten back foot by foot, fighting all the way. H.Q. Fifth Army had to issue constant orders to come back, now to this Division, now to that, though the men asked only to stand and fight it out and grew savage and half-mutinous under the immense fatigue and repeated disappointment. But H.Q. dared not risk it. They had, above all, to keep the line continuous and to prevent the Germans breaking through. The line did not remain continuous with all their efforts, for a gap occurred north of the Somme, which the Germans found, yet luckily could not turn to full advantage. But we did enough, just enough, and after five days an Australian Division heralded the reinforcements, and instantly what was left of those fifteen Divisions stopped where they stood. H.Q. Fifth Army drew breath, got a little rest for the first time since the battle started, and began to congratulate themselves on their success. And then they woke

up to the fact that the world thought they had failed, and failed badly. The French, who had done little to help, abused them; the Government, who had not sent reinforcements, and who now made unfortunate and misleading statements about the strength of the Army, recalled the General, and the public for the time joined in the outcry. Everyone knows better now. There may have been mistakes; there always are. But nothing can ever enable men to hold such a position as that was against forces so overwhelming as those were, and no historian will forget that the stubborn play of the Command and the fierce resistance of the troops held back even that furious onslaught, kept the line unbroken, parried the stroke on which all the hope of Germany depended, and saved the issue of the Great War.

Our advance began on August 8th with the clever and extraordinarily successful attack of the Fourth Army, which had replaced the Fifth in front of Amiens. On August 21st the Third Army on their left joined in, and on their left, again, the First advanced on August 26th. For a long time these three did all the fighting, and carried on the advance, which never stopped. The greatest decision after August 8th was the attack on September 27th, when the Third Army and part of the First stormed the tremendous Hindenburg line, and turned the enemy out of their last great prepared position. The Fourth Army completed the operation next day, and at the same time the Second Army and the Belgians went forward in the north. That was the first time the Belgians had had a chance. In the first battle of Ypres they held the Yser to the left of the French and us, and a war correspondent who was with them told me that their original army practically

died in its lines, so that they had to train a new one from the beginning. A high authority in the Second Army told me that in this attack, though the Staff work was faulty from inexperience, the Divisions did very well and the men fought like tigers.

The Armistice revealed in a curious way the strain, unsuspected until then, that the war had been upon the mind. As each morning when sleep ceases and before consciousness has returned a great sorrow is dimly felt with a sense of pain, so was there now an unexplained comfort when one's eyes unclosed. At first one lay still, and then gradually the thought grew clear, "I shall never see a wounded man again." The feeling lasted many weeks.

The hospitals of the Third Army lay chiefly between Cambrai and Le Cateau when the advance stopped. But at the end of February, 1919, we started on a tour of inspection to see the hospitals in Belgium and as far as the Rhine. We drove by Cambrai, Le Cateau, Landrécies, and Charleroi to Namur on the first day. Beyond Landrécies it is a pretty, enclosed country, chiefly pasture, and little damaged. Charleroi is a big coal town, stretching out in ugly suburbs for miles. Namur is a pleasant place, built on the point where the Sambre from the west runs into the Meuse coming from the south. The joint river turns at right angles to the Upper Meuse and continues the course of the Sambre to the east. In the narrow triangle between the two is a steep hill on which is the citadel. Upon the top of it there is a large modern pavilion, inscribed "Ludus pro patria," overlooking a level piece of ground suitable for athletic sports. Its rear front is a stage like an ancient theatre.

After seeing the Clearing Station, which was in great

straits owing to the continual demobilization of its orderlies, we drove down the lovely valley of the Meuse to Huy. Our road led through Dinant, where we saw the ruined quarter, and tablets on the walls to mark the places where the Germans had shot batches of the inhabitants to terrorize the rest. The same happened at Namur also. At Dinant all the factories were robbed of their machinery. In Huy is buried Peter the Hermit, native of Amiens, "Gentilhomme, prêtre et solitaire, d'une petite taille et d'une figure hideuse," within the walls of a monastery that he founded; and a local saint is St. Mengold, who was the son of a King of England called Etbald (Ethelbald) by the daughter of Arnoulf, Emperor of Germany and illegitimate son of Carloman. There is in the square a beautiful metal-work fountain with figures in fifteenth-century costumes, and a fine copper basin. The Clearing Station at Huy was in the school, and there was another at the Château d'Ardenne in the high country south of the river, a beautiful place, but lonely and far away.

We seized at Namur an immense flotilla of German barges laden with produce, which varied from ammunition to children's toys, and was evidence that the Germans had determined to stop there for the winter. We were disposing of it as well as we could, but for lack of sufficient guards, which could not be supplied, the barges were heavily pillaged. Robbery reached surprising lengths in Belgium. Numbers of motor-cars were stolen, and supply trains were robbed by men in uniform, who got into the waggons at night and threw out the contents to their confederates while the train was moving. At last we put a guard in every waggon, and sent two orderlies with each car.

We took the opportunity to see Waterloo again, after

seeing the hospitals at Charleroi, and drove to it by the road up which Napoleon marched.

From Namur we drove eastward over the hill to the lovely valley of the Vestre, which we followed up to Verviers, whence we turned north to Eupen and Aachen, and then east again through Jülich and over the Vorgebirge to Cologne. On these hills is a large deposit of lignite, which is dug in open quarries, and when pressed into bricks furnishes the electric power to Cologne and the towns around. Cologne is now a modern town of large houses and business buildings. The architecture is of the colossal type, enormous without being grand, with ornaments that are heavy and unpleasing. The great bridge is a copy of the Lombardic style, unsatisfactory as all copies are, and spoilt also by two curious details—the mean lettering of the inscription and the comparative smallness of the equestrian statues, which at a distance look like toys. Over this bridge our troops marched on December 12th, 1918, and an officer who saw it declared that he never had seen or should see so fine a sight. The men had been marching twelve or fourteen miles a day, often on very short rations, continuously for a fortnight. One Canadian Division actually marched twenty-three miles the day before. But every button was polished, every waggon was freshly painted, every horse was groomed till he shone, and the whole column looked as if it had just stepped out of Bond Street.

Our rule in the occupied country was strict, but it certainly was not hard. One or two German papers published articles for which they were fined, but there was no other attempt at opposition. There were strict orders against fraternization, for we were still at war, and at first we adopted the German orders for occupied

territory, and made the natives salute officers; but it was such a nuisance to return the salutes that it was soon dropped. We instituted, however, a custom which was much commented on by the German papers. Englishmen actually gave up their places in tram-cars to women who had not a seat.

The mess had a story against one of my colleagues, the gentlest of men, which illustrates how the Germans expected an army of occupation to behave. He was quartered in a palatial house at Düren, and was obsequiously ushered by the owner into a fine suite of apartments, with many expressions of desire to meet his every wish. "But," said the poor man, and his voice broke into a sob, "I beg of you, sir—I earnestly beg of you to respect our women." My friend is a little deaf, and the request had to be repeated; when he understood it, he assured his host that he would. But he has not heard the last of the story.

The private houses in Cologne and in the neighbouring towns belong to the very wealthy manufacturing class or to the officers and officials who marry their daughters. An officer of high rank commanded a good price, and after all he deserved it, for rank meant work in Germany. The inside of the houses was like the outside—very luxurious, but without taste. The native population looked depressed, but the owner of one of the houses we used, or rather his wife, gave an afternoon dance one day in her drawing-room, so I suppose their spirits were not altogether beyond recovery. The inhabitants were certainly not starving, or anything like it. Reports were current that the rations officially allowed by the German Government had a calorie value as low as 1,400, which means starvation. I am quite sure it was not correct for that area. You can tell if your

horse is getting his oats, and I know starvation when I see it. Some of the poorer children were pale, but there was nothing like what I had seen in the occupied areas of France. The lions and tigers in the Gardens were in good condition. Many of the animals in the London Zoo died from want of food.

There was evidence that the rich had grossly evaded the German ration regulations, and that they had dealt illicitly with the farmers and the farmers with them. This confirmed what had been often stated by neutral correspondents to our journals, and received corroboration from the large stores said to have been found in the Kaiser's own palace. Germany was the country of privilege, and the rich and powerful exercised their influence to the full. I believe that in no country was rationing so strict as in England, nor in any did those who could have afforded food deny themselves so widely or so much. Even in England the North never stinted itself as the South did. I know what my people lived on, and they were but a few specimens of a large class. The amount was very little.

When I was there the *Kölnische Zeitung*, which is Conservative, was chiefly occupied in attacking the National Assembly for wasting time over trifles rather profitable to itself than important to the country, and the Executive for not taking a firm line with the strikes. It was also much excited about a proposal, carried out since then, to establish a University at Cologne, which Bonn, the Oxford of Germany, which is only twenty miles away, naturally opposed with all its might. The *Kölnische Zeitung* was strongly opposed to setting up a separate province west of the Rhine, which should be cut off from Prussia, of which it now forms part.

Cologne is given up to electric tram-cars. As the streets are narrow, the cars cause much inconvenience.

Our people had a great admiration for the German municipal authorities, whom they described as sensible and efficient. When anything had to be done they could be trusted to do it, and to do it properly. Their opinion was a tribute to the good administration which in peace-time was a well-known feature of Germany.

We had three Clearing Stations in Cologne, which occupied a civil hospital for paying patients and two other large buildings. The paying hospital was an institution the like of which we greatly need in London. It was evidently in part endowed, for the benefactors' names were inscribed in the hall. It was arranged for three classes, in the first of which each patient had two rooms, in the second one, while the third was put in wards of ten or a dozen beds. Payment varied accordingly, but no such hospital can support itself properly, and all need endowment to some extent. There was a central kitchen and laundry, and there were rooms for eight Resident Medical Officers. The transport of patients might have been better, but otherwise the place was well planned.

I did not see any German hospitals there, but those of our officers who had were loud in condemnation. They said that they had never seen such horribly septic cases anywhere, and sepsis is the test by which surgeons are judged. It was here, too, that the extraordinarily barbarous method was practised of "extending" fractured thighs by great meat-hooks passed through the ilium on one side and into the tibia on the other. If we had not seen the cases and their open wounds, and the hooks that made them, which have all been photographed, we should not have believed such surgery was

possible. I am, however, now trespassing into a trade which is not mine. There was also a notice in one of their hospitals—"Bitte um Grösste Ruhe für die Tetanus-kranken," which was significant. With us a case of tetanus was the rarest possible thing, and that such a notice was necessary betrays a neglect of preventive inoculation.

At Bonn we occupied two German hospitals, one of them a paying hospital, beautifully situated on a hill. The plans were only moderately well designed. I noticed several things that might have been better. At Euskirchen, about twenty miles south-west of Cologne, we took a Deaf and Dumb Institute, and at Düren an Institute for the Blind. They were both recent, and very well built and arranged.

The Germans have a better pattern of bed than we have, though their size is too short for our men. It has a hinged head-piece that can be raised by a ratchet, and saves bed-rests. They had, too, a very neat box for an oxygen apparatus, with a reducing valve like ours, but the face-piece was not so good as ours. Of these I only saw one or two. Officers have told me that the German waggons were better made than ours, but I never saw any except those which lay broken by the roadside. They had very neat cases for 10-centimetre shell cartridges, fastened with a particularly clever hasp. Our officers said that the German prisoners were better carpenters than our men, and their engineering is first rate.

We drove over the Rhine by the Hohenzollern bridge into an exceedingly pretty country of wooded hills and valleys through which ran a lovely river, evidently created for trout. There were plenty of fowls and some stock about the farms, showing, again, that the country was by no means at the end of its resources. The people

were quite friendly, and said " Good-day " to us pleasantly. The poor do not feel national humiliation. They are occupied with their own concerns.

After three days we turned homeward through Aachen and Brussels. At a little town called St. Trond we were stopped by a pageant—not one of the pretty shows we had in England before the war, but a real pageant of the old mediæval style. It was a procession of waggons representing scenes from the war. In one a farm-house was being stormed, in another a mother was crying over two dead children, in a third a German firing-party was shooting civilian prisoners, and in a fourth a very handsome woman, crowned and richly robed, stood for Belgium enthroned and victorious. Others contained choruses of girls in white or of men, singing. There was a great deal of the comic also. In one waggon a German on a motor-car tried continually to get up an inclined plane on the top of which was Paris, and each time rolled back again; imitation German prisoners were hauled along with their hands full of turnips, or carrying a hen, or some furniture. The whole was escorted by a " motley cavalcade "—it sounds like a scene from Scott, and it really looked like one—dressed in all kinds of sham uniforms, and mounted on all kinds of horses, including one solemn little boy of five on a fat grey pony. Everyone was dressed up, everyone was acting his part, either comic or serious, with the utmost fervour, and the populace were packed along the streets and waving from all the windows. It was just such a pageant as the Dukes of Burgundy must have often seen, with the old simplicity and the old reality. One almost expected to see Philippe le Bon on a great Flanders horse, with his niece on the pillion and the prettiest girl in the town on his saddle-bow.

It is, I am told, a habit which this country has always kept up, and even in civilized French Douai they have a set of effigies, which they occasionally parade through the town. To the great joy of Douai, they were left undisturbed by the Germans.

We slept that night at Brussels, and the town was a relief after Cologne. No one would call the architecture of Brussels beautiful, but it is simple, suitable, and, above all, unpretentious. We do not blame a plain dress even though it is not beautiful, but gaudiness is the unpardonable sin. Brussels reaches a certain level of beauty by its wide streets and open spaces, and, more than this, its long rows of grey shuttered fronts give a certain pleasure, like a procession of grey nuns, though none is striking in itself. Next day we drove to Lille, where we again stayed a night. It was curious to find yourself relegated to the back stairs, which in Cologne, if any distinction was made, became rather the portion of the owner, and to reflect that you were now among friends. The next day, after seeing the hospitals, we came back to Hesdin.

Three weeks later I went up to Valenciennes, where were H.Q. First Army, to see the hospitals there. The Dutch Red Cross was installing and equipping for the French the old military hospital, which the Germans had left filthy, as they always did. The floors were deep in dirt, the latrines were piled up with ordure on the seats and everywhere, and they had cut the pipes and stopped the drains. In a factory at Caudry they used the ground floor for horses and the first floor for patients, which perhaps explains the frequency of tetanus. We cleared a foot of manure out of the ground floor there.

The Dutch doctors had been running two hospitals in Paris, they told me. Their sisters were ladies of the



SCENE FROM FUGITIVE AT S. L. FROD NEAR LOUVAIN - GERMANS SHOOTING CIVILIAN PRISONERS.

same class as our own, and all of them spoke English and were both pleasant and highly efficient. Their packing arrangements were especially good. Every case that contained hospital equipment when travelling was arranged to serve a definite purpose when the hospital was pitched. Thus a certain size of case held linen and blankets for two beds. When unpacked it stood on end between the beds, and was the right height for a table and cupboard. Everything had been similarly designed. One of our hospitals was in a seminary, out of which the priests were doing their best to turn us. At Mons we were occupying a new and very well built hospital.

In the advance all our armies found large numbers of French civilians suffering from wounds, disease, or starvation. There were 1,242 admitted to one hospital at Valenciennes. Frequent accidents occurred, especially, but not only, among the children, from playing with bombs or gunpowder. The Field Ambulances and Clearing Stations took them in and looked after them, and some were set apart specially for them. The orderlies became quite expert at feeding babies. We usually supplied the Medical Officer, the sisters, and the orderlies, but at Arras the nuns of St. Jean did a great deal to help. This was not the first time the nuns had helped us. At Bethune the hospital was in civil times nursed by nuns, and the Mother-Superior volunteered to give anæsthetics, and did it very well.

The French before the war had no system of trained nurses which compared at all with our own. They had begun to see the need of it, and for a few years we at St. Bartholomew's had been receiving and training a few French nurses sent to us by the Assistance Publique of Paris. But as a general rule the nursing was carried on by nursing religious sisterhoods. The civil hospitals

at Bethune, Arras, and Hesdin, for instance, were nursed by nuns and so are the wards at the Institut Pasteur in Paris. There the Mother-Superior had trained herself in bacteriology in order that she might be thoroughly competent to teach her nurses the principles of aseptic nursing.

Some of these sisterhoods renew their vows yearly, and are always free if they wish to re-enter the world.

In the war volunteers of all kinds came forward, and at the end a large body of ladies was engaged in nursing. M. Benjamin gives a charming description of them in his "Gaspard." At Lillers in 1915 we shared a hospital with the French, and a French lady who was nursing in the French wards told me that neither she nor any of her companions had had any experience whatever before the war.

The consequence of this dearth of trained nurses in France is that a sick-room in a private house, at any rate in the country, is uncomfortable and depressing to the last degree.

In England in a case of sickness a nurse is employed who is clean and fresh and pleasantly dressed, which in itself is a great advantage in a sick-room, and is trained to make the patient comfortable, to carry out the doctor's orders, to give medicines and dress wounds and to take accurate observations. She is, as a rule, cheerful and active, and she keeps the patient's room clean, sweet, and pleasant.

What I saw in France was a nun, dressed in black, in a uniform that by no possibility could be kept clean, of a sad and serious demeanour, and of no knowledge whatever of nursing or of hygiene. To put flowers in the room would never enter her head, and even tidiness as we understand it was a thing beyond her. Her conversation

was of small religious interests, and her occupation was prayer. The patient's meals were served in a way that would have made me sick, and his linen was neglected and unchanged.

It is still worse for the poor. In one of the cottages of our village there had been a case of typhoid. The patient's friends were frightened of the infection, and neglected her. The only person who could be found to attend her was a kind lady whom I know. She practically saved that woman's life. But she had to do nearly the whole herself. There was nothing of the organization that in England would have taken charge of such a case.

CHAPTER XXVI

THE MEN AND THE BATTLEFIELDS

I HAVE always had the greatest admiration for our wounded men. Soldiers are not angels, some of them are great blackguards, and men when in a crowd often behave like schoolboys. But a man in bed cannot exercise his vices or his folly, and his better impulses begin to tyrannize. If the fight had been successful the spirits of the wounded were always high, and even at the worst times and with the worst wounds they were uncomplaining and patient of pain. Unless unconscious or so weakened by long suffering as to have lost their self-control, they did not disturb others by moaning or crying out. I thought them wonderfully brave. They contrasted with the Germans, who as a rule were fretful patients. I remember one Uhlan who was a fine fellow, and displayed great fortitude, but he was an exception to the rule.

One day Sir John French paid a visit to No. 6 Clearing Station at Lillers, and went round the wards talking to the men in a way they greatly liked. The C.O. told me that the effect upon them was extraordinary. He had a ward of bad cases, all on stretchers—that is, none sitting up. He went round the hospital with the C.-in-C., and then went back to this ward to finish some work. He found one fellow with a mouth-organ, and the rest of them singing “Tipperary” at the top of their voices,

including one old chap whom he thought dying. He told him he really ought not to sing; it was not safe for him. But the old man said: "Oh, I like them songs, sir; they does me no 'arm." And he actually was better next day.

My most seductive patient was a London arab, shot through the chest. I should guess he was a newspaper-boy or something equally irregular. Lean, big-eyed, long-nosed, he looked as if he had never had a good meal in his life. "Would you like a bit of chicken?" "I dunno, sir; I never ate none." "What about a bit of steak?" "I never ate that neither. I ate a bit of steak and kidney pie once. I should like some of that." This, however, was when, much to our amazement, he began to improve. He was, we thought, dying for a week, and in great bodily distress, but always gay, good-tempered and uncomplaining. There was rejoicing over him, as there always is over a bad case that does well, but quite as much for his personal qualities. Londoners are very attractive. They are the gayest of all the English, and extremely brave for all they are such rats. I told him I was a doctor at St. Bartholomew's by way of an introduction, and he wrote home to his friends—for even he had friends—that a real doctor had been to see him. Another soldier writing home described me as "still working very hard in spite of his advanced age." These little tit-bits came from the hospital censor, who had to read the men's letters.

The boy with the chest reminds me of another boy with a bad chest who escaped from the wreck of the *Anglia*. He had been shot in the chest, and a large abscess had formed outside the lung—we call it an empyema—for which he had to have a large hole made in his chest, and an india-rubber tube as big as a man's thumb put

in to drain it. He had not been out of bed for weeks, when he was put on board, but hearing the explosion, he rushed on deck, was given a lifebelt by a sister, and soon afterwards found himself in the sea. He remembered nothing more till he found himself being plied with brandy in the railway-train. He got safely to a hospital at Epsom, and was apparently none the worse for having, as I suppose he must have had, the inside of his chest full of icy cold sea-water, to say nothing of his outward man.

There were many very old men who had sneaked into our Army. I came across an orderly in a Clearing Station who was seventy-one, and an old Sergeant who had four sons all sergeants, and had been pulled out of the front line by main force himself, was older still. I found an officer sick in hospital, a retired Major of Cavalry who was Acting-Lieutenant of a Labour Company. I know he was much older than I was. Mr. Webber, of the Stock Exchange, died in the trenches at sixty-eight. On the other hand, I found at least three soldiers who were under sixteen, and one who was under fifteen, when he joined. They were fine big lads whose size had enabled them to slip through.

The admiration which I had for the men in hospital was increased tenfold when I saw the battlefields. There is no striking natural feature about them. They are simply slight slopes of clay ground up which you could trot a dog-cart, but when you reached the enemy's position and looked back you wondered how any men could have lived to get there. I saw Fricourt, which the French had twice attacked in vain, on July 6th. 1916, five days after we had taken it. We lay on the south-western side of a little marshy dip, and towards the north and east the ground rises gently to a road

cut into the slope and sheltered by six or eight feet of cutting. Behind this the men sheltered in the first rush, but it is hard to imagine getting up and going on. It is hard to think of climbing that bank and standing up on the bare slope of perhaps a hundred yards that led to the German trenches. There was not a thistle to cover you or stop the fire; the men must have gone forward in the face of a hurricane of bullets. On that slope lay little heaps of knapsacks, bayonets, caps, belts, rifles, every yard or two. Their owners were in their graves, but the equipment had not been removed, and marked where they had fallen. In front of the trenches were widths of barbed wire, cut to pieces in places by our fire, but in others still intact, and two great craters in the chalk where the Germans had blown up mines under the advancing troops. The parapets had been damaged, but the trenches were still deep and defensible enough. Under the parapet opened the wooden doorways of the stairs, which led steeply down for 20 feet to the dug-outs beneath. One of them in a trench a little way to the rear had been the quarters of a Medical Officer. He had a bedstead, a washstand, an armchair, a table, and a what-not, all no doubt taken from the village houses whose inhabitants had fled. Here and there in the German trenches still lay a few dead bodies, swollen and putrefying, which the burial parties had not yet reached.

Thiepval is another terrible place. The Ancre runs there from north to south through a marshy valley about a quarter of a mile wide. West of it the hill rises steeply, and on the east there is more high ground which sends down to the south a big rounded spur a mile long. Thiepval lies on the root of the spur, and looks straight down upon Albert, nearly four miles away, while from

Thiepval the ground rises very slightly for about half a mile to the great German position formed by the Stuss, Schwaben, and Regina redoubts, which have an open field of fire of that distance in front of them. On each side of the Thiepval spur there is a little shelter, the Ancres valley on the west, and another small dip on the east, but the spur itself, up which the troops in the centre had to advance, is bare in front of Thiepval, while behind it to the great main line of trenches which we took on October 20th, 1916, there is no cover anywhere, and it must have been like walking into the mouth of Death.

The Butte of Warlencourt, which was another famous place, is a large chalk mound looking like an old burial tumulus which lies just to the south of the road from Albert to Bapaume. It is about twenty feet high, and standing on it you can see a long distance over a rolling country on which nothing stands above the level but the bare skeletons of a few trees here and there, marking where villages once were. Le Sars and Warlencourt, which are on the main road, have completely disappeared; in Ligny, a little way off, there are a few walls. North of the road you look across a shallow valley whose far slope was a sheet of red poppies, looking like a field of blood. Everywhere, as far as the eye could see, was a desolate, ruined country covered with thistles, burdock, and other weeds as high as the knee, which hid the innumerable shell-holes that pitted it. The mound had been filled with machine guns, which were so protected by the chalk above them that they could not be shelled out, and their effect over the open slopes was devastating. On the top of the mound stand three crosses in memory of the 6th, 8th, and 9th Durhams, who, after dreadful losses, captured it.

But the most awful battlefield of all was the scene of



BATTLEFIELD ON MENIN ROAD.



VIEW OF BATTLEFIELD SHOWING MENIN ROAD.

the operations east of Ypres. Ypres itself must have been a lovely place. It is an old fortified town, and the great ramparts which still remain on its eastern side are hardly damaged, though continually pounded by heavy guns. Coming through the ramparts from the east, you enter a large square, on the north side of which stood the great Cloth Hall, and across a street north of the Hall, the Cathedral. The architecture was of the best Gothic, and even in ruin it is lovely. It used to be a holiday resort from the neighbouring large towns, and there was an excellent restaurant on the east side of the square. The battlefield east of it is a line of very low slopes about a mile and a half across, which before the war formed a pretty piece of wooded country with a few villages. To the north of the road was the Polygon racecourse, where the Belgian officers used, I believe, to train the horses that earned prizes in our military tournaments. The whole is now an utterly desolate bog. You cannot walk five yards in a straight line on account of the shell-holes, which are full of water and deep in mud. They have completely blocked the natural surface drainage, and I cannot see how it can be put right, for each single hole is a lake in itself, without any outlet. A wounded man falling into one of them cannot get out. The sides are very steep, the hold is soft, and he sinks in the deep mud like a bogged horse. Even an unwounded man is in danger. An officer whom I know sent his servant back to his H.Q. late one evening with a message. Next morning he found the man had not come in, and discovered him in a shell-hole with the water up to his chin. Ropes were passed under his arms, and with great difficulty he was hauled out, but he died of the exposure. Nothing is left of the villages here but a few bricks; nothing of the woods but the seared stumps

of trees. Nothing stands above the surface of the ghastly ground but these, and the remains of our Tanks and of the German cement-built fortresses that we called pill-boxes.

I have seen three sad things in France. I have seen the refugees flying before the enemy's advance with all the property that they could save, and on the top of it the mother and the younger children piled upon the cart. The elder children and the father walked beside it, and when the hill was steep took out the old horse, joined with their neighbours to form a team, and so one by one dragged the heavy loads to the top. They had lost their homes, and they went they knew not whither.

I have seen the villages that they had left. Some had almost disappeared, and others had been so completely shattered that it seemed a cheaper and an easier plan to build a new village elsewhere than to attempt the restoration of the old.

But I think that the dreadful sight which the land itself presented was worse than either of these two things. What had once been a richly cultivated country and in summer a wide sea of waving corn was now like nothing but a blasted and a barren moor. Brown, lifeless tracts of bents they were that filled it, flecked with white patches of chalk thrown out of old trenches and lit by countless pools of stagnant water, while down the middle of the dead and wasted valley the puffing engine of a light railway made solitude more solitary still. Such desolation is more pitiable than unhappy fugitives, more terrible than ruined villages, and gives a more awful impression of the effect of war.

CHAPTER XXVII

THE END THEREOF

THE first object of the Allies was to free Europe from German tyranny. That has been accomplished, and I hope for a time so long that when Germany regains the power she will not have the desire to attack others. She will quickly begin again to produce, and it is to everyone's advantage that she should, for the immense loss of wealth can only be made good by work, and every hand is needed if we are to recover the abundance of commodities in which alone prosperity consists. There is no fear of crushing her. An industrial nation whose machinery is uninjured cannot be prevented from regaining prosperity, even if anyone was so foolish as to wish it. She will pay, and pay easily, any fine likely to be imposed upon her, will soon again be a thriving nation, and will not, in my opinion, remain republican. Her upper classes, who are both patriotic and capable, will be so much needed that they will regain influence, and will probably set up a constitutional monarchy. Republicanism is not in the German blood, and Germany as a whole will prefer the historical forms to which she is accustomed. But though this will be to some extent a danger, her larger classes will have much more power than before, and will be able to enforce the desire for peace inherent in all large industrial masses. The French would not have gone to war except for their own pre-

servation, and we are consistently pacific in policy. At present Germans are outwardly unrepentant, but when they settle down and think matters quietly over they will see, if not with our eyes, at any rate with a vision very different from the present, the real proportion of events. Moreover, since Austria will not again be a united Empire and Turkey will be cut off from her, Germany will be in a very different position from that which she held before the war.

America early put forward proposals for a League of Nations designed to prevent future wars, which was the second great object of the Allies. This plan, which is admirable in spirit, will have considerable effect. But its usefulness in the future depends upon the possession by its members of an intelligence which they have not shown in the past. The danger was clear enough then, but we neither appreciated it nor prepared for it. There will be the same inertia as before, and if the time for action ever unhappily comes there will be divided counsels. We cannot afford to build our hopes upon it alone, though it will nourish a spirit which will greatly assist other influences.

It is hoped by some that the community of international interests will be sufficiently appreciated greatly to diminish the risk. But each nation is a large business concern, and must to some extent be in rivalry with its neighbours. It is to the world's advantage that this should be so, for it increases production and makes the things that everyone needs more plentiful. Class disputes may eventually cut across this feeling, but at present the national interest has a stronger influence with a man than the interests of the world at large, and if his country were in danger would certainly overcome the latter claim.

The best hope of future peace lies in the spread of democracy, chiefly because the wish of the majority of any nation and of any class, except such a class as ruled Prussia, is always to avoid war, but also because a democratic government can command neither the efficiency nor the secrecy deliberately to prepare for it. Democracy is the best safeguard against oppression that has yet been invented, but its weakness is that it is permeated by a distrust which makes its operation both dilatory and wasteful. Its virtue will be to acquire the habit of trusting its leaders, perhaps even to breed leaders who can be trusted, while retaining its safeguards against the abuse of power. At present such a faith is strikingly deficient from the top to the bottom of the scale, and until political discovery—for all advance in politics is of the nature of discovery—has provided the means for obtaining it, democracy will never be able to show what she can accomplish.

The union of the different parts of the British Empire, which is another great influence for the preservation of the world's peace, has undoubtedly been strengthened by the war. Many years ago the Colonies, as they were then called, chafed under our rule, and the general opinion was that they would separate from England. Later still, English statesmen themselves favoured separation in the supposed interests of the Mother Country. The Boer War and Mr. Chamberlain's influence bound them strongly to us, and the present war has bound them closer still. There is nothing more wonderful than the attachment which they have shown to the political ideals for which we have stood, and to the sentiment of union with the other Dominions and with England. Political philosophers have devised schemes by which the Dominions may in a formal manner take

a greater share in the management of the Empire; but it is probable that no great scheme will ever be adopted ready made by any English race. If we want to consult Dominion Ministers we ask them over, and if they are willing to consult with us they come. One year we confine the discussion to certain very limited subjects, the next it is much wider. The custom will gradually grow as it is found convenient, and one fine day we shall discover that we have laid the foundations of an Imperial Constitution, which we shall then proclaim to have existed ever since we first began to colonize the world.

It will be a further gain to civilization if the misunderstandings that used to poison our relations with the United States can be diminished. These difficulties have not been of our seeking, and we have done all we could to overcome them. Those Americans whom I know myself respect us first for our unwillingness to go to war, which our want of preparation proved; next for our defence of Belgium in fulfilment of our public pledge; and thirdly for the staunchness with which we have conducted the great struggle and the sacrifices we have made. I hope that this feeling may exist in a certain degree among the general population of the States. They have the same sense of chivalry as we, the same hatred of oppression, and the same fundamental ideals. It is not too much to hope that they will use their great power in common with ourselves to spread the liberty and justice we alike revere.

In England before the war the struggle between employers and employed had in some quarters reached a dangerous stage owing to the distrust with which each party regarded the other. It has always been evident that the war would produce as great changes in

the relation of classes within our own country as in the relation of our State to others. Labour has not had an open market of late, and its price has been so much altered by this and by the increased money value of goods, that no one knows what it rightly is at present, still less what it will be when prices fall. The men are making great demands now, for they know that with the return of soldiers to civil life, with the diminution of the vast military demands, and with the lowering of prices, the natural tendency will be for wages to fall. But they are taking a greater step than this. They are urging that all means of communication and transport shall remain permanently in the hands of the State, and they are impeaching the whole system of private ownership. They have selected for attack the coal industry, where for many years they have believed that the owners were cheating them out of their just share of the profits, but their leaders have indicated their intention to extend State ownership to other industries as well.

Class feeling is the strongest that there is, but it is not omnipotent, and if the claims of one class are opposed to what the nation feels to be the general interest, they are not likely to succeed. But in any case it is a mistake to suppose that by State ownership or any other system disputes will be avoided. The interest of one man or one class is never the same as that of another, and where interests conflict there will always be differences. Whether the immediate antagonist is a company, or the Government, or the nation, either as private consumers or as other industries, there will always be something to oppose unlimited concessions, and in consequence disputes will always occur. It would be a mistake to adopt a plan otherwise disadvantageous in the belief that they would be prevented.

There is a great deal of fairness and good sense in Englishmen. They usually allow that there are two sides to a question, and are willing to discuss it with good temper. It nearly always turns out that each party has some reason on its side, and that each has overstated its case in some particulars. The result is a compromise. Over large sections of industry masters and men meet one another with mutual respect. Neither side objects to hard bargaining, for they bargain hard themselves. If in a particular industry this feeling does not exist, the public feels that there must be a grave fault somewhere, and is not likely to show much mercy to those whose fault it is. But if the public has to come in to settle the difference it will take such steps as seem good to itself, and will expect both parties to abide by the award.

Whatever system is adopted, one thing is sorely needed. We have lost the desire for work and the pride in working well. We are no longer the industrious nation that we have been. We do not realize that prosperity depends, not upon wages, but upon goods, and that a nation cannot buy if it does not produce enough to sell. Men work as little as they can, and the restriction of work is actually thought to benefit the workman. It is said that men read much on economic questions, but on this they show an ignorance which is appalling. They are faced with severe competition, for the Germans worship work as we worship play. German engineering is better than ours, and we have lost more than one industry to her. She was before the war increasing her trade at our expense, and she will at once begin to compete with us again. If she succeeds it will be the reward of her industry, and if we fail we shall deserve it. There is no place for a nation that will not work.

But the war has taught us many things, and it has perhaps taught us this. The public seems to have learnt that money invested in Education and in Health will inevitably bring profit to the nation. There seems a new spirit abroad among employers, more enterprise, a greater appreciation of discovery, a greater readiness to consider new methods. And as for the men, they are the same men that I have seen in France. I know how they bore their sufferings, and I have heard but one story from Commanding Officers of how they did their work. Just at present labour has lost its head, but I do not believe that the men who have saved Europe are about to ruin England.

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